=> file reg
FILE 'REGISTRY' ENTERED AT 12:44:33 ON 30 SEP 2005
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STRUCTURE FILE UPDATES: 29 SEP 2005 HIGHEST RN 864227-43-0
DICTIONARY FILE UPDATES: 29 SEP 2005 HIGHEST RN 864227-43-0

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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```
**********************************************************************
*                                                                    *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,    *
* effective March 20, 2005. A new display format, IDERL, is now      *
* available and contains the CA role and document type information. *
*                                                                    *
**********************************************************************
```

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> file hcapl
FILE 'HCAPLUS' ENTERED AT 12:44:38 ON 30 SEP 2005
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 30 Sep 2005 VOL 143 ISS 15
FILE LAST UPDATED: 29 Sep 2005 (20050929/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> d que l50
L5              SCR 2043
L7              STR 1

CH2:CH-G1
1   2   3


VAR G1=H/CH3
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   3

STEREO ATTRIBUTES: NONE
L16             STR 2

        5
        O
        ≷
CH2:C~~C~~OH
1   2   3   4


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   5

STEREO ATTRIBUTES: NONE
L18             STR 3

O—CH2-G1        CH2-CH2-O—C        H3C—CH2-O—C        CH2-O—C
1   2   3       @4  5   6   7        8   @9  10  11     @12 13  14


VAR G1=4/9/12
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
L20        30836 SEA FILE=REGISTRY SSS FUL L18 AND L16 AND L7 AND L5
L28        70392 SEA FILE=REGISTRY ABB=ON  PUR/PCT
L29         2735 SEA FILE=REGISTRY ABB=ON  L28 AND METHYLOL
L32              STR

O—CH2-G1        CH2-CH2-O—C        H3C—CH2-O—C        CH2-O—C
1   2   3       @4  5   6   7        8   @9  10  11     @12 13  14


VAR G1=4/9/12
NODE ATTRIBUTES:
```

30,836 polymers from structures 1 and 2 and 3 covering the non-crosslinkable polymer

Isocyanates

Subset search to refine non-crosslinkable polymers

```
CONNECT IS X2  RC AT   7
CONNECT IS X2  RC AT  11
CONNECT IS X2  RC AT  14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
L34        8402 SEA FILE=REGISTRY SUB=L20 SSS FUL L32
L36       13579 SEA FILE=REGISTRY ABB=ON  74-85-1/CRN
L38        6583 SEA FILE=REGISTRY ABB=ON  115-07-1/CRN
L39         339 SEA FILE=REGISTRY ABB=ON  L20 AND (L36 OR L38)
L40         105 SEA FILE=REGISTRY ABB=ON  L39 AND L34
L42         884 SEA FILE=REGISTRY ABB=ON  9004-74-4/CRN
L43         124 SEA FILE=REGISTRY ABB=ON  L20 AND L42
L44          15 SEA FILE=REGISTRY ABB=ON  L43 AND (L36 OR L38)
L45         105 SEA FILE=REGISTRY ABB=ON  L44 OR L40
L47          54 SEA FILE=HCAPLUS ABB=ON  L45
L49        4514 SEA FILE=HCAPLUS ABB=ON  L29
L50           0 SEA FILE=HCAPLUS ABB=ON  L47 AND L49
```

no CA reference with the isocyanate/methylol and the non-crosslinkable polymers

```
=>  d que l56
L28       .70392 SEA FILE=REGISTRY ABB=ON  PUR/PCT
L29        2735 SEA FILE=REGISTRY ABB=ON  L28 AND METHYLOL
L49        4514 SEA FILE=HCAPLUS ABB=ON  L29
L55          34 SEA FILE=HCAPLUS ABB=ON  L49 AND ELECTROLYT?
L56          13 SEA FILE=HCAPLUS ABB=ON  L55 AND ELECTROCHEM?/SC,SX
```

13 CA references on isocyanates + methylol and electrolyte

```
=> d l56 bib abs ind hitstr 1-13

L56  ANSWER 1 OF 13  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2001:205378  HCAPLUS
DN   134:369347
TI   The addition of Al2O3 in composite electrolytes consisting of
     polyethylene oxide and polytetramethylene glycol-based waterborne
     polyurethane
AU   Wu, Ming-Sieng; Wen, Ten-Chin
CS   Department of Chemical Engineering, National Cheng Kung University,
     Tainan, 701, Taiwan
SO   Journal of the Chinese Institute of Chemical Engineers (2001), 32(1),
     47-56
     CODEN: JCICAP; ISSN: 0368-1653
PB   Chinese Institute of Chemical Engineers
DT   Journal
LA   English
AB   Composite electrolytes (CEs) containing polyethylene oxide (PEO),
     polytetramethylene glycol based waterborne polyurethane (WPU(PTMG)),
     LiClO4/propylene carbonate (PC), and aluminum oxide (Al2O3) were prepared by
     blending.  The influences of the addition of Al2O3 in CEs were investigated
     using the following methods.  Differential scanning calorimetry (DSC) and
     polarizing microscopy (PM) were employed for material characterization.
     The swollen weight of CEs was measured to appraise the maximum tolerated intake.
     A.c. impedance was employed to obtain the ionic conductivity  Furthermore,
     Li/CEs/Li-CoO2 laminated cells were assembled to measure open-circuit
     voltages (Voc) for the application evaluation.  Accordingly, the CE
```

consisting of 20% PEO, 20% WPU(PTMG), 10% Al2O3, and 50% LiClO4/PC was found to have the best performance for all the investigated characteristics.

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, **72**

ST alumina composite polymer **electrolyte** lithium battery; polyethylene oxide polytetramethylene glycol polyurethane **electrolyte**

IT Battery **electrolytes**
Ionic conductivity
Swelling, physical
(addition of alumina in composite **electrolytes** consisting of polyethylene oxide and polytetramethylene glycol-based waterborne polyurethane)

IT Polyoxyalkylenes, uses
Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(addition of alumina in composite **electrolytes** consisting of polyethylene oxide and polytetramethylene glycol-based waterborne polyurethane)

IT 108-32-7, 1,3-Dioxolan-2-one, 4-methyl- 1344-28-1, Alumina, uses 7791-03-9, Perchloric acid, lithium salt 25322-68-3 **82115-76-2**
RL: DEV (Device component use); USES (Uses)
(addition of alumina in composite **electrolytes** consisting of polyethylene oxide and polytetramethylene glycol-based waterborne polyurethane)

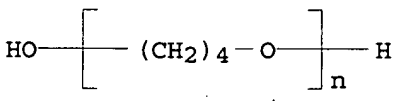
IT **82115-76-2**
RL: DEV (Device component use); USES (Uses)
(addition of alumina in composite **electrolytes** consisting of polyethylene oxide and polytetramethylene glycol-based waterborne polyurethane)

RN 82115-76-2 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, block (9CI) (CA INDEX NAME)

CM 1

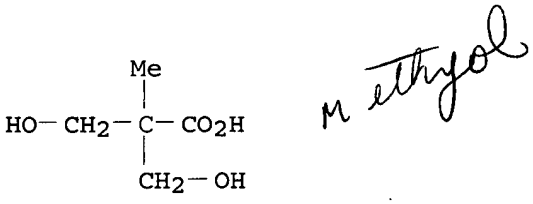
CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS



not ethylene or propylene

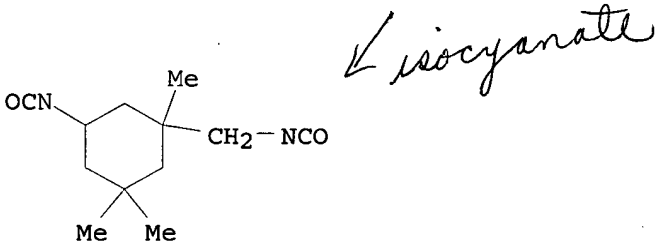
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2000:875698 HCAPLUS
DN 134:31211
TI Triple-polymer based composite **electrolyte**
IN Wen, Ten-chin; Cheng, Tsung-tien; Kuo, Han-cheng
PA USA
SO U.S., 8 pp., Cont.-in-part of U.S. 6,077,897.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6159639	A	20001212	US 1998-82740	19980521
	US 6077897	A	20000620	US 1997-980990	19971201
PRAI	US 1997-980990	A2	19971201		

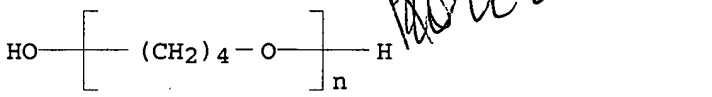
AB A WPU(PEG) (polyethylene glycol based waterborne polyurethane)-WPU(PTMG) (polytetramethylene glycol based waterborne polyurethane)-PEO triple-polymer based composite **electrolyte** is disclosed. The **electrolyte** includes a thin composite film and an anhydrous liquid **electrolyte** within the thin film. The thin film is composed of WPU(PTMG) serving as a support, PEO serving as an adsorbent of the liquid **electrolytes**, and WPU(PEG) serving as a compatibility promoter. On the other hand, the anhydrous liquid **electrolyte** is used for ionic conduction. The resulting thin film **electrolyte** has a good conductivity (up to 10-2 to 10-3 S/cm at room temperature), especially within a compositional range of 0-75 weight% WPU(PEG), 0-45 weight% WPU(PTMG), and 20-95 weight% PEO. A WPU(PEG)-WPU(PTMG)-PEO based composite **electrolyte** is adapted to be used in lithium ion batteries, lithium batteries, and electrochromic devices.

IC ICM H01M006-16
ICS H01M006-14

INCL 429309000
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 74
ST battery polyethylene glycol composite **electrolyte**; polytetramethylene glycol composite **electrolyte** battery
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(lithium complex; triple-polymer based composite **electrolyte**)
IT Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(polyoxyalkylene-; triple-polymer based composite **electrolyte**)
IT Battery **electrolytes**
Electrochromic devices
Ionic conductivity
(triple-polymer based composite **electrolyte**)
IT Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(triple-polymer based composite **electrolyte**)
IT Laminated plastics, uses
RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(triple-polymer based composite **electrolyte**)
IT 7439-93-2D, Lithium, aminosulfonate, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**electrolyte**; triple-polymer based composite **electrolyte**)
IT 60-29-7, Diethyl ether, uses 96-47-9, 2-Methyltetrahydrofuran 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, Thf, uses 110-71-4, 1,2-Dimethoxyethane 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 646-06-0, Dioxolane 872-50-4, n-Methyl-2-pyrrolidone, uses 7439-93-2, Lithium, uses 7439-93-2D, Lithium, polyethylene glycol complex, uses 7791-03-9, Lithium perchlorate 12190-79-3, Cobalt lithium oxide colio2 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 25322-68-3D, Polyethylene glycol, lithium complex 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 90076-65-6
RL: DEV (Device component use); USES (Uses)
(triple-polymer based composite **electrolyte**)
IT **72765-49-2P 157609-20-6P**, Dimethylolpropionic acid-Isophorone diisocyanate-polyethylene glycol copolymer
RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(triple-polymer based composite **electrolyte**)
IT **72765-49-2P 157609-20-6P**, Dimethylolpropionic acid-Isophorone diisocyanate-polyethylene glycol copolymer
RL: DEV (Device component use); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(triple-polymer based composite **electrolyte**)
RN 72765-49-2 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

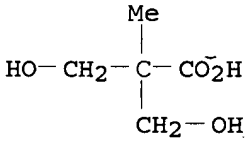
CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS



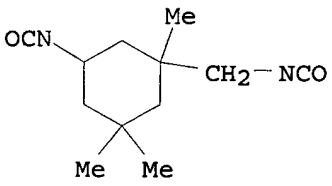
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

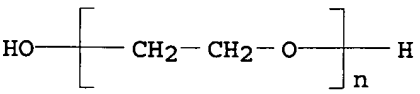
CRN 4098-71-9
CMF C12 H18 N2 O2



RN 157609-20-6 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

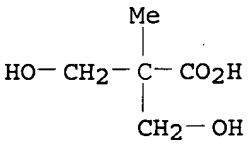
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



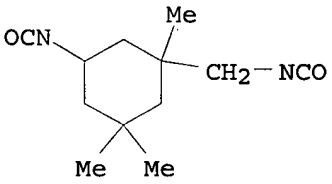
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:415921 HCAPLUS
DN 131:146816
TI Morphologies and conductivities of WPU(PEG)-WPU(PTMG)-PEO based composite **electrolytes**
AU Wen, Ten-Chin; Cheng, Tsung-Tien
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan
SO Proceedings - Electrochemical Society (1999), 98-15(Selected Battery Topics), 328-343
CODEN: PESODO; ISSN: 0161-6374
PB Electrochemical Society
DT Journal
LA English
AB A systematic modeling anal. for the swollen weight (Sw) and the room temperature conductivity (σ25) of the composite **electrolytes** of polyethylene glycol based waterborne polyurethane - polytetramethylene glycol based polyurethane - polyethylene oxide (denoted as WPU(PEG)-WPU(PTMG)-PEO) was performed. Using a mixture design approach, empirical models are fitted and plotted as contour diagrams which facilitate revealing the synergistic/antagonistic effects among the mixed polymers. The contour plots show that the maximum Sw appears at point X3 (PEO 95%, WPU(PEG) 5%), while the maximum σ25 (1.8 + 10-3 S cm-1) appears in the ternary region (WPU(PEG) 19-38%, WPU(PTMG) 9-21%, and PEO 47-68%). The results are reasonably explained from the interactions among polymers on the basis of their mol. structures. The thermal anal. of the composite films is performed to demonstrate the speculations about the interactions among the mixed polymers. Arrhenius plots of conductivities for our prepared **electrolytes** present the straight lines with the slope ca. 5.67

kcal mol-1 and 4.78 kcal mol-1 for the corresponding activation energy.

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST polyethylene glycol based waterborne polyurethane **electrolyte**; polytetramethylene glycol based waterborne polyurethane **electrolyte**; battery **electrolyte** waterborne polyurethane **electrolyte**

IT Battery **electrolytes**
Electric conductivity
(morphologies and conductivities of waterborne polyurethane composite **electrolytes**)

IT Polyurethanes, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(polyoxyalkylene-; morphologies and conductivities of waterborne polyurethane composite **electrolytes**)

IT Ionomers
RL: TEM (Technical or engineered material use); USES (Uses)
(polyoxyalkylene-polyurethanes; morphologies and conductivities of waterborne polyurethane composite **electrolytes**)

IT **212901-34-3 220142-77-8**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(morphologies and conductivities of waterborne polyurethane composite **electrolytes**)

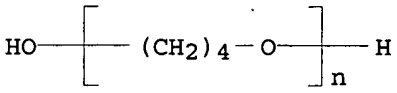
IT **212901-34-3 220142-77-8**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(morphologies and conductivities of waterborne polyurethane composite **electrolytes**)

RN 212901-34-3 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

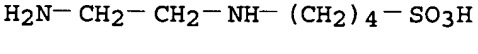
CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS



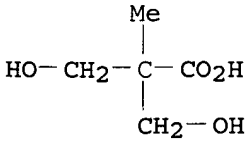
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li



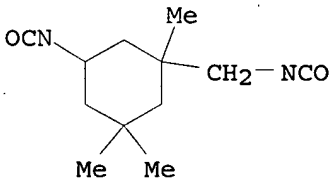
CM 3

CRN 4767-03-7
CMF C5 H10 O4



CM 4

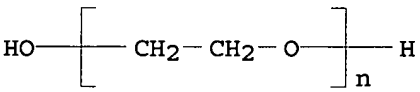
CRN 4098-71-9
CMF C12 H18 N2 O2



RN 220142-77-8 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

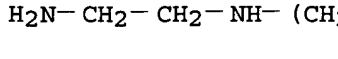
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



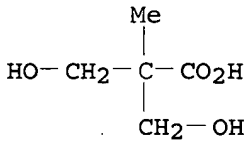
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li



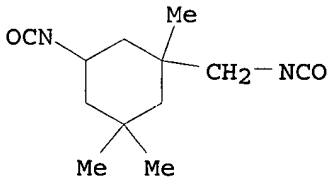
CM 3

CRN 4767-03-7
CMF C5 H10 O4



CM 4

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:383974 HCAPLUS
DN 131:33830
TI Preparation of polyurethane-based polymeric **electrolyte**
IN Wen, Ten-Chin; Cheng, Tsung-Tien
PA National Science Council, Taiwan
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5912093	A	19990615	US 1997-856725	19970515
PRAI	US 1997-856725		19970515		

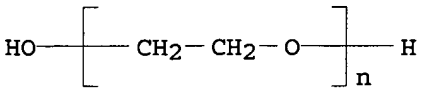
AB The present invention is related to a process for producing a polyurethane-based polymeric **electrolyte** including steps of: (a) providing a polyurethane material as a matrix material; (b) dispersing the matrix material in a first solvent to form a dispersion solution; (c) drying

the dispersion solution to form a thin film of polyurethane as a matrix of the polymeric **electrolyte**; and (d) adding a component of an organic **electrolyte** into the matrix to form the polyurethane-based polymeric **electrolyte**. The present invention is also related to a polyurethane-based polymeric **electrolyte** including a thin film of a polyurethane serving as a matrix of the polymeric **electrolyte** ; and an organic **electrolyte** arranged in the matrix for ionic conduction. The fabricated thin film **electrolyte** has satisfactory conductivity and can be suitably used in batteries.

IC ICM H01M006-14
ICS C08F008-42; C08K003-10
INCL 429192000
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST battery polyurethane based polymer **electrolyte**
IT Battery **electrolytes**
(preparation of polyurethane-based polymeric **electrolyte**)
IT Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(preparation of polyurethane-based polymeric **electrolyte**)
IT 7439-93-2D, Lithium, polyethylene glycol complex, uses 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 29935-35-1, Lithium hexafluoroarsenate 33454-82-9, Lithium triflate 106493-44-1
RL: DEV (Device component use); USES (Uses)
(preparation of polyurethane-based polymeric **electrolyte**)
IT **157609-20-6DP**, Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, lithium complexes
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of polyurethane-based polymeric **electrolyte**)
IT 60-29-7, Diethyl ether, uses 96-47-9, 2-Methyltetrahydrofuran 96-48-0 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 109-99-9, uses 110-71-4, 1,2-Dimethoxyethane 616-38-6, Dimethyl carbonate 646-06-0, Dioxolane 872-50-4, n-Methyl-2-pyrrolidone, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(preparation of polyurethane-based polymeric **electrolyte**)
IT **157609-20-6DP**, Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, lithium complexes
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of polyurethane-based polymeric **electrolyte**)
RN 157609-20-6 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

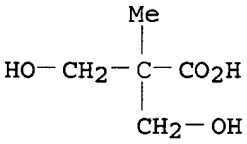
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



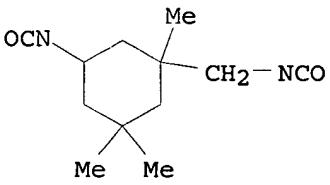
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:233479 HCAPLUS
DN 130:327204
TI The effect of DMPA units on ionic conductivity of PEG-DMPA-IPDI waterborne polyurethane as single-ion **electrolytes**
AU Wen, Ten-Chin; Wang, Yeong-Jyh; Cheng, Tsung-Tien; Yang, Chien-Hsin
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 701, Taiwan
SO Polymer (1999), 40(14), 3979-3988
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Science Ltd.
DT Journal
LA English
AB The waterborne polyurethane (WPU) dispersions synthesized from poly(ethylene glycol) (PEG), dimethylol propionic acid (DMPA), and isophorone diisocyanate (IPDI) with various DMPA contents were prepared from our modified acetone process. DSC, FTIR spectroscopy, and wide-angle X-ray diffraction spectroscopy were utilized to characterize WPU films for the behavior of their crystallinity and H-bonding. A.c. impedance expts. were performed to determine the ionic conductivities of WPU films and their

corresponding gel **electrolytes.** One of the investigated WPU gel **electrolytes** exhibits an ionic conductivity as high as .apprx.10-5 S/cm at room temperature

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, **72**, 76

ST battery **electrolyte** waterborne polyurethane dispersion

IT Battery **electrolytes**
Conducting polymers
Electrolytes
Ionic conductivity
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

IT Polyurethanes, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

IT **220142-77-8P**, Poly(ethylene glycol)-dimethylol propionic acid-isophorone diisocyanate-1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

IT 4098-71-9, Isophorone diisocyanate 4767-03-7 14031-54-0 25322-68-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

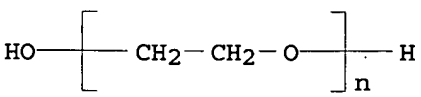
IT **220142-77-8P**, Poly(ethylene glycol)-dimethylol propionic acid-isophorone diisocyanate-1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of dimethylol propionic acid units on ionic conductivity of waterborne polyurethane as single-ion **electrolytes**)

RN 220142-77-8 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



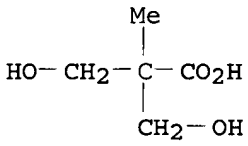
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li

● Li

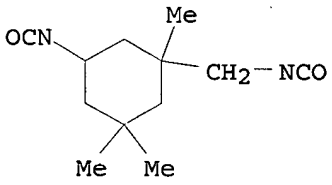
CM 3

CRN 4767-03-7
CMF C5 H10 O4



CM 4

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:35870 HCAPLUS
DN 130:141589
TI Novel water-borne polyurethane based **electrolytes** for lithium batteries - (I) tailor-made polymer
AU Cheng, Tsung-Tien; Wen, Ten-Chin
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan
SO Journal of Electroanalytical Chemistry (1998), 459(1), 99-110
CODEN: JECHES; ISSN: 0368-1874
PB Elsevier Science S.A.
DT Journal
LA English
AB In the light of the polyethylene oxide structure, various polymer

electrolytes based on tailor-made polyurethane (PU) were prepared and investigated by a.c. impedance. Equivalent circuits and schematic structures were proposed to describe the conductive behavior of these **electrolytes.** The impedance results show that water-borne polyurethane (WPU) film, impregnated with propylene carbonate, has a conductivity of 2.83 x 10-5 S cm-1 at 80°. With the addition of salt and solvent, WPU-based **electrolyte** exhibits a conductivity of 4.68 x 10-4 S cm-1 at 250. It is promising to use our tailor-made WPU as a polymer **electrolyte** for lithium batteries.

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST polyurethane based **electrolyte** lithium battery

IT Electric impedance
(a.c.; water-borne polyurethane based **electrolytes** for lithium batteries)

IT Secondary batteries
(lithium; water-borne polyurethane based **electrolytes** for lithium batteries)

IT Battery **electrolytes**
Conducting polymers
Electric conductivity
(water-borne polyurethane based **electrolytes** for lithium batteries)

IT Polyoxyalkylenes, uses
Polyurethanes, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(water-borne polyurethane based **electrolytes** for lithium batteries)

IT 108-32-7, Propylene carbonate
RL: DEV (Device component use); USES (Uses)
(water-borne polyurethane based **electrolytes** for lithium batteries)

IT **220142-77-8P**, Polyethylene glycol-isophorone diisocyanate-2,2-dihydroxymethyl propanoic acid-1-butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(water-borne polyurethane based **electrolytes** for lithium batteries)

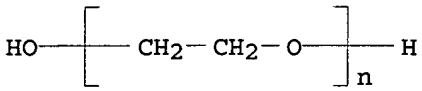
IT **220142-77-8P**, Polyethylene glycol-isophorone diisocyanate-2,2-dihydroxymethyl propanoic acid-1-butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(water-borne polyurethane based **electrolytes** for lithium batteries)

RN 220142-77-8 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

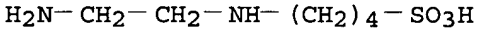
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



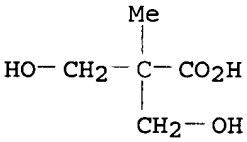
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li



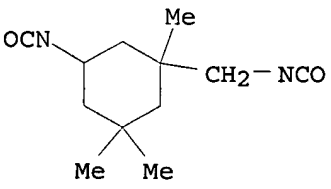
CM 3

CRN 4767-03-7
CMF C5 H10 O4



CM 4

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

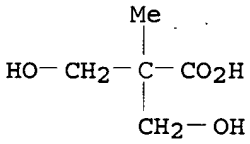
L56 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:749009 HCAPLUS
DN 130:27181
TI Novel waterborne polyurethane based **electrolytes** for lithium batteries - (IV). The influence of DMPA/PEG ratios on conductivity
AU Cheng, Tsung-Tien; Wen, Ten-Chin

CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 701, Taiwan
SO Journal of the Chinese Institute of Chemical Engineers (1998), 29(5), 327-335
CODEN: JCICAP; ISSN: 0368-1653
PB Chinese Institute of Chemical Engineers
DT Journal
LA English
AB Three waterborne polyurethane (WPU) films with the molar ratios of dimethylol propionic acid (DMPA) to polyethylene glycol (PEG) at 0.1, 1, and 3 were prepared by using our modified acetone process. The effects of DMPA/PEG on conductive behavior were investigated by comparing the ionic conductivity of these dry films, their gel-type films, and gel-type **electrolytes.** The gel-type films and gel-type **electrolytes** were prepared by impregnating the dry films with 50 wt% propylene carbonate (PC) and 1M LiClO4/PC, resp. The ionic conductivity was determined by running a.c. impedance with stainless steel (SS)/dry film/SS and Li/gel film/Li cells. Differential scanning calorimetry and polarizing microscopy were employed for material characterization to explain the reason for different conductivities. The room temperature conductivities of gel-type films and gel-type **electrolytes** are .apprx.10-5 S/cm and .apprx.10-4 S/cm, resp.
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST waterborne polyurethane **electrolyte** lithium battery; dimethylol propionic acid polyurethane **electrolyte** battery; polyethylene glycol polyurethane **electrolyte** lithium battery
IT Battery **electrolytes**
Ionic conductivity
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT Secondary batteries
(lithium; effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT 108-32-7, Propylene carbonate 7791-03-9, Lithium perchlorate
216377-58-1, Dimethylol propionic acid-ethylene glycol-isophorone diisocyanate copolymer
RL: DEV (Device component use); USES (Uses)
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT 4767-03-7 25322-68-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
IT **216377-58-1**, Dimethylol propionic acid-ethylene glycol-isophorone

diisocyanate copolymer
RL: DEV (Device component use); USES (Uses)
(effect of dimethylol propionic acid to polyethylene glycol on conductivity of waterborne polyurethane based **electrolytes** for lithium batteries)
RN 216377-58-1 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

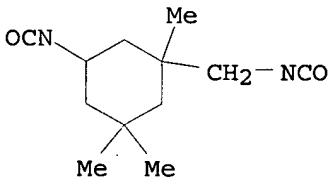
CM 1

CRN 4767-03-7
CMF C5 H10 O4



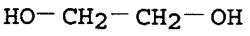
CM 2

CRN 4098-71-9
CMF C12 H18 N2 O2



CM 3

CRN 107-21-1
CMF C2 H6 O2



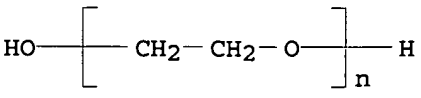
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:749008 HCAPLUS
DN 130:27180
TI Novel waterborne polyurethane based **electrolytes** for lithium batteries - (III). Interfacial behavior between **electrolyte** and lithium
AU Cheng, Tsung-Tien; Wen, Ten-Chin
CS Department of Chemical Engineering, National Cheng Kung University,

Tainan, 70101, Taiwan
SO Journal of the Chinese Institute of Chemical Engineers (1998), 29(5), 319-326
CODEN: JCICAP; ISSN: 0368-1653
PB Chinese Institute of Chemical Engineers
DT Journal
LA English
AB The interfacial behavior between waterborne polyurethane (WPU) **electrolyte** and lithium was investigated using cyclic voltammetry (CV), linear sweep voltammetry (LSV) and chronoamperometry (CA). CV results between -3 V and +3 V show three peaks on the pos. sweep and two peaks on the neg. sweep, indicating that the lithium stripping process is quite different from its depositing process. A series of schematic diagrams of interfacial phenomena between WPU **electrolyte** and lithium metal is proposed to help in interpreting the CV results. Based on the LSV and CA results, our prepared WPU **electrolyte** showed the electrochem. stability up to 4.25 V and the pendant anions do not affect the long term polarization of this **electrolyte.**
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, **72**
ST interface waterborne polyurethane **electrolyte** lithium battery
IT Battery anodes
Battery **electrolytes**
(interfacial behavior between waterborne polyurethane **electrolyte** and lithium)
IT Polyurethanes, uses
RL: DEV (Device component use); USES (Uses)
(interfacial behavior between waterborne polyurethane **electrolyte** and lithium)
IT Secondary batteries
(lithium; interfacial behavior between waterborne polyurethane **electrolyte** and lithium)
IT 108-32-7, Propylene carbonate 7439-93-2, Lithium, uses 33454-82-9, Lithium triflate **213118-67-3**
RL: DEV (Device component use); USES (Uses)
(interfacial behavior between waterborne polyurethane **electrolyte** and lithium)
IT **213118-67-3**
RL: DEV (Device component use); USES (Uses)
(interfacial behavior between waterborne polyurethane **electrolyte** and lithium)
RN 213118-67-3 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



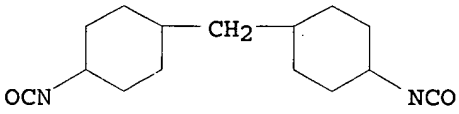
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li

● Li

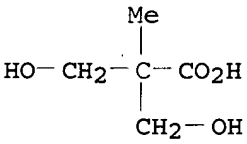
CM 3

CRN 5124-30-1
CMF C15 H22 N2 O2



CM 4

CRN 4767-03-7
CMF C5 H10 O4



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:643799 HCAPLUS
DN 129:247594
TI Influences of adding LiCF3SO3-PC on the conductivity of H12MDI based WPU **electrolytes**
AU Luo, Shih-Sheng; Cheng, Tsung-Tien; Wen, Ten-Chin
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan
SO Journal of the Chinese Institute of Chemical Engineers (1998), 29(4), 239-248
CODEN: JCICAP; ISSN: 0368-1653
PB Chinese Institute of Chemical Engineers
DT Journal
LA English
AB Waterborne polyurethane synthesized from 4,4'-methylenebis (cyclohexyl isocyanate) (H12MDI), polyethylene glycol (PEG), and di-Me propionic acid

(DMPA) was employed as the matrix of polymer **electrolytes.** The influences of adding various of LiCF3SO3-PC on the conductivity of WPU-based **electrolytes** and the voltammetric behavior at lithium/WPU interface are investigated by AC impedance anal. and cyclic voltammetry. The conductivities calculated from the results of AC impedance obey Arrhenius law with the activation energy of 10.33 kcal/mol, 9.82 kcal/mol, and 8.31 kcal/mol at 10%, 30%, and 50% of LiCF3SO3-PC, resp. On the basis of CV results, the lithium stripping/depositing processes were found to be facile at the lithium/WPU **electrolyte** interface. Comparisons of the conductivity as well as the voltammetric behavior of H12MDI based WPU **electrolytes** and those of IPDI based WPU **electrolytes** are made to clarify the differences between two hard segments.

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, **72**, 76

ST battery **electrolyte** polyurethane synthesis cond

IT Battery **electrolytes**
Conducting polymers
Electric conductivity
Electrolytes
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

IT Polyurethanes, uses
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

IT **213118-67-3P**, 1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt-4,4'-methylenebis (cyclohexyl isocyanate)-polyethylene glycol-dimethylol propionic acid copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

IT 75-98-9 108-32-7 5124-30-1 25322-68-3 33454-82-9, Lithium trifluoromethane sulfonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

IT **213118-67-3P**, 1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt-4,4'-methylenebis (cyclohexyl isocyanate)-polyethylene glycol-dimethylol propionic acid copolymer
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(influences of adding LiCF3SO3-propylene carbonate on conductivity of 4,4'-methylenebis (cyclohexyl isocyanate) based waterborne polyurethane **electrolytes**)

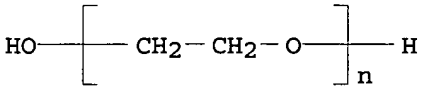
RN 213118-67-3 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and

1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

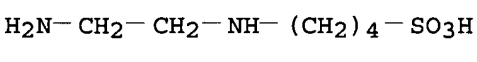
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



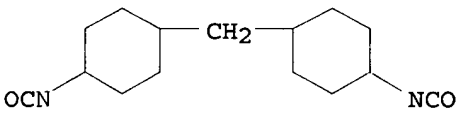
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li



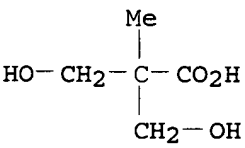
CM 3

CRN 5124-30-1
CMF C15 H22 N2 O2



CM 4

CRN 4767-03-7
CMF C5 H10 O4



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:635029 HCAPLUS

DN 129:233053
TI An investigation of composite **electrolytes** by mixing polyethylene oxide- and polytetramethylene glycol-based waterborne polyurethane with the addition of LiClO4/propylene carbonate
AU Wen, Ten-Chin; Chang, Jian-Sheng; Cheng, Tsung-Tien
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 701, Taiwan
SO Journal of the Electrochemical Society (1998), 145(10), 3450-3455
CODEN: JESOAN; ISSN: 0013-4651
PB Electrochemical Society
DT Journal
LA English
AB Various composite **electrolytes** (CE) were prepared by mixing polytetramethylene glycol-based waterborne polyurethane [WPU(PTMG)], polyethylene oxide (PEO), and LiClO4/propylene carbonate (PC). The conductivity of these CEs was investigated using ac impedance. DSC and polarizing microscopy (PM) were employed for material characterization. The temperature dependence of the conductivity follows the Arrhenius law for samples with a LiClO4/PC content larger than 30%, while for samples with LiClO4/PC content approximating 8%, it shows linear segments separated by a transition zone between 25 and 65°. According to the ac and DSC results, the conductivity is increased, and the melting temperature is decreased by increasing the LiClO4/PC content. PM results indicate that the increase in PEO ratio increases the crystallinity of the PEO-WPU(PTMG) films. When LiClO4/PC is added, the increase in PEO ratio results in an increase in conductivity The CE comprising 33% PEO, 17% WPU(PTMG), and 50% LiClO4/PC exhibits conductivities as high as ca. .apprx.10-2 S cm-1 at 85° and 5 + 10-3 S cm-1 at 15°.
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
ST battery **electrolyte** composite polyethylene oxide based; polytetramethylene glycol based composite **electrolyte**
IT Battery **electrolytes**
Electric conductivity
(composite **electrolytes** by mixing PEO- and polytetramethylene glycol-based waterborne polyurethane with the addition of LiClO4/propylene carbonate)
IT Polyoxyalkylenes, uses
Polyurethanes, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(composite **electrolytes** by mixing PEO- and polytetramethylene glycol-based waterborne polyurethane with the addition of LiClO4/propylene carbonate)
IT 108-32-7 7791-03-9, Lithium perchlorate 25190-06-1 25322-68-3 **212901-34-3**, Dimethylol propionic acid-isophorone diisocyanate-polytetramethylene glycol-1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(composite **electrolytes** by mixing PEO- and polytetramethylene glycol-based waterborne polyurethane with the addition of LiClO4/propylene carbonate)
IT **212901-34-3**, Dimethylol propionic acid-isophorone diisocyanate-polytetramethylene glycol-1-Butanesulfonic acid, 4-[(2-aminoethyl)amino]-, monolithium salt copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(composite **electrolytes** by mixing PEO- and polytetramethylene

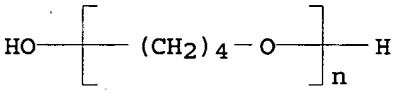
glycol-based waterborne polyurethane with the addition of LiClO4/propylene carbonate)

RN 212901-34-3 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 4-[(2-aminoethyl)amino]-1-butanesulfonic acid monolithium salt, α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

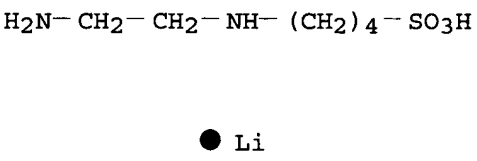
CM 1

CRN 25190-06-1
CMF (C4 H8 O)n H2 O
CCI PMS



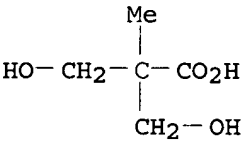
CM 2

CRN 14031-54-0
CMF C6 H16 N2 O3 S . Li



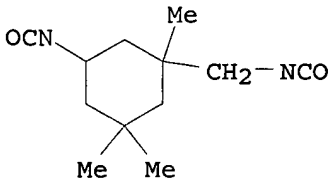
CM 3

CRN 4767-03-7
CMF C5 H10 O4



CM 4

CRN 4098-71-9
CMF C12 H18 N2 O2



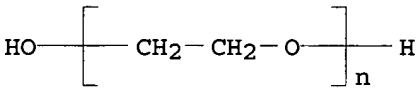
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:337872 HCAPLUS
DN 129:205191
TI Novel waterborne polyurethane based **electrolytes** for lithium batteries - (II) the effect of adding LiCF3SO3-PC. [Erratum to document cited in CA128:206741]
AU Cheng, Tsung-Tien; Wen, Ten-Chin
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan
SO Solid State Ionics (1998), 110(1,2), 163
CODEN: SSIOD3; ISSN: 0167-2738
PB Elsevier Science B.V.
DT Journal
LA English
AB An error in the name of the first author was made and has been corrected
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST erratum lithium battery waterborne polyurethane based; lithium battery waterborne polyurethane based erratum; battery waterborne polyurethane based **electrolyte** erratum
IT Battery **electrolytes**
Electric conductivity
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries (Erratum))
IT Polyurethanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries (Erratum))
IT Secondary batteries
(lithium; effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries (Erratum))
IT **203867-98-5P**, 2,2-Dimethylolpropionic acid-isophorone diisocyanate-polyethylene glycol block copolymer
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries (Erratum))
IT 108-32-7, Propylene carbonate 33454-82-9, Lithium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries

(Erratum))
IT **203867-98-5P**, 2,2-Dimethylolpropionic acid-isophorone diisocyanate-polyethylene glycol block copolymer
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries (Erratum))
RN 203867-98-5 HCAPLUS
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, block (9CI) (CA INDEX NAME)

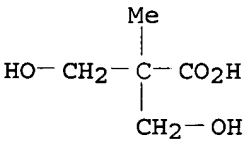
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



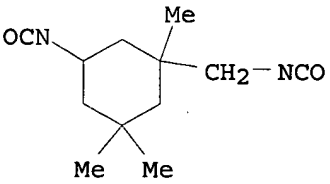
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



L56 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:135062 HCAPLUS
DN 128:206741

TI Novel waterborne polyurethane based **electrolytes** for lithium batteries. (II). The effect of adding LiCF3SO3-PC

AU Cheng, Ysung-Tien; Wen, Ten-Chin
CS Department of Chemical Engineering, National Cheng Kung University, Tainan, 70101, Taiwan

SO Solid State Ionics (1998), 107(1,2), 161-171
CODEN: SSIOD3; ISSN: 0167-2738
PB Elsevier Science B.V.
DT Journal
LA English

AB New type **electrolytes** with the addition of LiCF3SO3-PC into polymer films of waterborne polyurethane (WPU) prepared from our modified acetone process are investigated by using a.c. impedance and cyclic voltammetry (CV) for their ionic conductivities and interfacial characteristics. The conductivities calculated from the results of a.c. impedance obey an Arrhenius law. The conductivity and the charge transfer resistance of WPU based **electrolytes** increases and decreases, resp., with increasing addition of LiCF3SO3-PC. The room temperature conductivities of WPU **electrolytes** are improved from 10-5.apprx.10-6 S cm-1 to .apprx.10-3 S cm-1 by adding LiCF3SO3-PC from 10 to 70 weight%. However, the CV results of WPU **electrolyte** with 70 wt% of LiCF3SO3-PC in a Li/WPU **electrolyte**/Li cell exhibit unstable voltammetric behavior at 65°, which is attributable to its unstable dimension at high temperature

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST lithium battery waterborne polyurethane based **electrolyte**

IT Battery **electrolytes**
Electric conductivity
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

IT Polyurethanes, uses
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

IT Secondary batteries
(lithium; effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

IT **203867-98-5P**, 2,2-Dimethylolpropionic acid-isophorone diisocyanate-polyethylene glycol block copolymer
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

IT 108-32-7, Propylene carbonate 33454-82-9, Lithium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

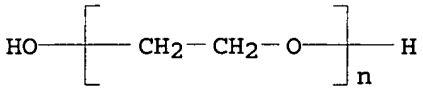
IT **203867-98-5P**, 2,2-Dimethylolpropionic acid-isophorone diisocyanate-polyethylene glycol block copolymer
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(effect of adding LiCF3SO3-propylene carbonate on waterborne polyurethane based **electrolytes** for lithium batteries)

RN 203867-98-5 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, block (9CI) (CA INDEX NAME)

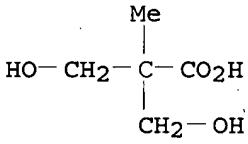
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



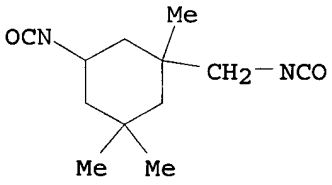
CM 2

CRN 4767-03-7
CMF C5 H10 O4



CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1982:105624 HCAPLUS
DN 96:105624
TI Solid **electrolyte** based on macromolecular material with ionic conductivity
IN Andre, Jean Daniel; Killis, Andreas; Le Nest, Jean Francois; Cheradame, Herve Marcel
PA Etat Francais, Fr.
SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA French
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	EP 37776	A1	19811014	EP 1981-400518	19810331
	EP 37776	B1	19840718		
	R: DE, GB, NL				
	FR 2485274	A1	19811224	FR 1980-7135	19800331
	FR 2485274	B1	19840525		
	CA 1157251	A1	19831122	CA 1981-374324	19810331
	US 4357401	A	19821102	US 1981-249940	19810401
PRAI	FR 1980-7135	A	19800331		

AB Urethane rubber solid **electrolytes** are manufactured by filling oligomeric polyoxyalkylenes with highly ionizable salts and crosslinking with polyisocyanates. Thus, 30 g ethylene oxide-propylene oxide copolymer (mol. weight 2200) was filled with 3 g Ph4BNa [143-66-8] (dissolved in 10 mL CH2Cl2, and crosslinked-molded by heating at 80° between 2 glass plates with 3.34 g CH(C6H4NCO)3 and 0.5 mL dibutyltin dilaurate to give a copolymer [80840-46-6] rubber membrane with elasticity modulus 45 + 105 Pa at -2 5° and elec. conductivity 1 + 10-4 and 1 + 10-5 Ω-1 cm-1 at 100 and 50°, resp.

IC H01M010-36; H01M006-18; H01B001-12

CC 39-15 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): **52**, 76

ST urethane rubber solid **electrolyte**; polyoxyalkylene urethane rubber solid **electrolyte**; sodium phenylborate urethane rubber **electrolyte**

IT Rubber, urethane, uses and miscellaneous
RL: USES (Uses)
(membrane **electrolytes**, containing highly ionizable salts)

IT Electric conductivity and conduction
(of urethane rubber membranes containing highly ionizable salts)

IT Membranes
(urethane rubber, containing **electrolytes**)

IT **Electrolytes**
(solid-state, urethane rubber membranes containing highly ionizable salts)

IT 75-13-8D, aliphatic esters, polymers with polyoxyethylene-polyoxypropylene glycol 822-06-0D, polymers with poly(oxypropylene) triol 25322-69-4D, triol derivs., polymers with hexamethylene diisocyanate 25766-15-8 60495-28-5 **64422-56-6** 80840-46-6 80852-10-4 80852-11-5 80889-62-9
RL: USES (Uses)
(rubber, **electrolyte** membranes, containing highly ionizable salts)

IT 143-66-8 540-72-7 7791-03-9 14485-20-2 33454-82-9
RL: USES (Uses)
(urethane-rubber membranes containing, as **electrolytes**)

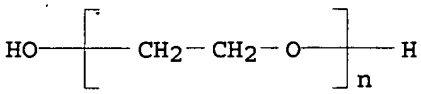
IT **64422-56-6**
RL: USES (Uses)
(rubber, **electrolyte** membranes, containing highly ionizable salts)

RN 64422-56-6 HCAPLUS

CN 1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with 1,6-diisocyanatohexane and α-hydro-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

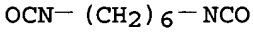
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



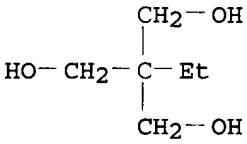
CM 2

CRN 822-06-0
CMF C8 H12 N2 O2



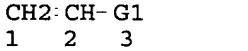
CM 3

CRN 77-99-6
CMF C6 H14 O3



The non-crosslinkable polymer with utility

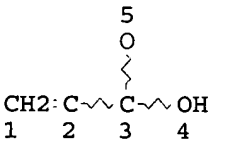
=> => d que l58
L5 SCR 2043
L7 STR



VAR G1=H/CH3
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE
L16 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   5

STEREO ATTRIBUTES: NONE
L18             STR

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1   2   3      @4   5   6   7         8   @9  10  11     @12 13  14


VAR G1=4/9/12
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
L20        30836 SEA FILE=REGISTRY SSS FUL L18 AND L16 AND L7 AND L5
L22        18824 SEA FILE=HCAPLUS ABB=ON  L20
L23          213 SEA FILE=HCAPLUS ABB=ON  L22 AND ELECTROLYT?
L25           12 SEA FILE=HCAPLUS ABB=ON  L23 AND MATRIX
L26           60 SEA FILE=HCAPLUS ABB=ON  L23 AND ?CROSSLINK?
L27            2 SEA FILE=HCAPLUS ABB=ON  L23 AND (NONCROSSLINK? OR NON(W)CROSSL
                 INK?)
L28        70392 SEA FILE=REGISTRY ABB=ON  PUR/PCT
L29         2735 SEA FILE=REGISTRY ABB=ON  L28 AND METHYLOL
L32              STR

O--CH2-G1       CH2-CH2-O--C        H3C--CH2-O--C        CH2-O--C
1   2   3      @4   5   6   7         8   @9  10  11     @12 13  14


VAR G1=4/9/12
NODE ATTRIBUTES:
CONNECT IS X2  RC AT   7
CONNECT IS X2  RC AT  11
CONNECT IS X2  RC AT  14
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  14

STEREO ATTRIBUTES: NONE
L34         8402 SEA FILE=REGISTRY SUB=L20 SSS FUL L32
L36        13579 SEA FILE=REGISTRY ABB=ON  74-85-1/CRN
L38         6583 SEA FILE=REGISTRY ABB=ON  115-07-1/CRN
L39          339 SEA FILE=REGISTRY ABB=ON  L20 AND (L36 OR L38)
L40          105 SEA FILE=REGISTRY ABB=ON  L39 AND L34
L42          884 SEA FILE=REGISTRY ABB=ON  9004-74-4/CRN
L43          124 SEA FILE=REGISTRY ABB=ON  L20 AND L42
L44           15 SEA FILE=REGISTRY ABB=ON  L43 AND (L36 OR L38)
L45          105 SEA FILE=REGISTRY ABB=ON  L44 OR L40
L47           54 SEA FILE=HCAPLUS ABB=ON  L45
L48            5 SEA FILE=HCAPLUS ABB=ON  L47 AND ELECTROLYT?
L49         4514 SEA FILE=HCAPLUS ABB=ON  L29
L50            0 SEA FILE=HCAPLUS ABB=ON  L47 AND L49
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L51       41077 SEA FILE=HCAPLUS ABB=ON  L28
L52           2 SEA FILE=HCAPLUS ABB=ON  L47 AND L51
L53           8 SEA FILE=HCAPLUS ABB=ON  L48 OR L50 OR L52 OR L27
L54           6 SEA FILE=HCAPLUS ABB=ON  L25 AND L26
L58          13 SEA FILE=HCAPLUS ABB=ON  L53 OR L54
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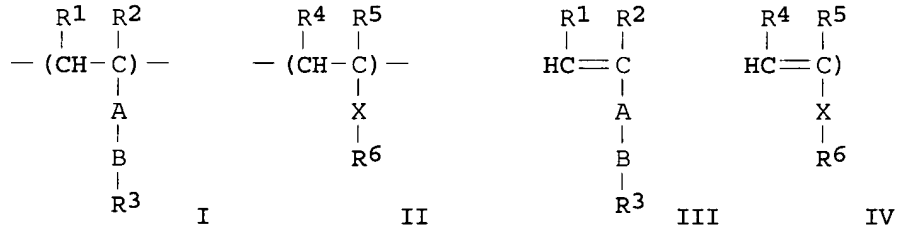
=> d l58 bib abs ind hitstr 1-13

L58 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:57625 HCAPLUS
DN 142:159490
TI Ionic conducting structure, secondary battery, and their manufacture
IN Yamamoto, Tomoya; Akasaka, Akifumi; Kawakami, Soichiro
PA Canon Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 54 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005019064	A2	20050120	JP 2003-179404	20030624
	US 2005019668	A1	20050127	US 2004-872419	20040622
PRAI	JP 2003-179404	A	20030624		

GI



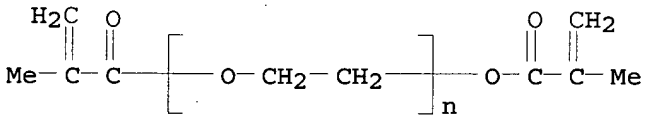
AB The title structure is mainly constituted by a **crosslinking** structured polymer **matrix**, and a solvent and an **electrolyte** as plasticizer; where the **matrix** contains a segment I and a segment II [R1-2, R4-5 = H, C<2 alkyl group; R3, R6 = C<4 alkyl group; A or B = (CH2-CH2O)m or CH2-CH(CH3O)n; x = (CH2-CH2O)k; m,n (integer) ≥3; and K (integer) ≥1] and the main chain part of the polymer chair has an orientation with I side chain part. The title structure is manufactured by mixing a monomer III, with a monomer IV [R1-2, R4-5 = H, C<2 alkyl group; R3, R6 = C<4 alkyl group; A or B = (CH2-CH2O)m or CH2-CH(CH3O)n; x = (CH2-CH2O)k; m,n (integer) ≥3; and K (integer) ≥1], a solvent, and an **electrolyte**; and polymerizing the mixture to obtains a polymer **matrix.** The battery has the above structure as ionic conductor between a cathode and an anode. The battery is manufactured by arranging the ionic conducting structure in a linking direction of the anode surface and the cathode surface to have higher ionic conductivity

IC ICM H01M010-40
ICS H01B001-06; H01B013-00; H01M004-02; H01M004-38; H01M004-58; H01M004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery polymer **electrolyte** ionic conductor compn manuf
IT Battery **electrolytes**
Secondary batteries
(compns. and manufacture of ionic conductors containing polymer **matrix**, **electrolyte** salts and solvents for **electrolytes** in secondary batteries)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 14283-07-9, Lithium tetrafluoroborate **830336-36-2 830336-44-2** 830336-46-4 **830336-48-6 830336-50-0**
RL: DEV (Device component use); USES (Uses)
(compns. and manufacture of ionic conductors containing polymer **matrix**, **electrolyte** salts and solvents for **electrolytes** in secondary batteries)
IT **830336-36-2 830336-44-2 830336-48-6 830336-50-0**
RL: DEV (Device component use); USES (Uses)
(compns. and manufacture of ionic conductors containing polymer **matrix**, **electrolyte** salts and solvents for **electrolytes** in secondary batteries)
RN 830336-36-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[2-(2-methoxyethoxy)ethoxy]ethyl ester, polymer with methyloxirane block polymer with oxirane mono-2-propenoate methyl ether, and α-(2-methyl-1-oxo-2-propenyl)-ω-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

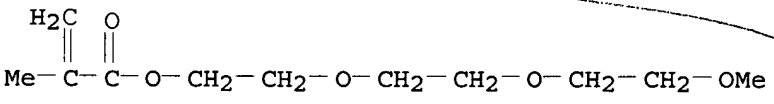
CM 1

CRN 25852-47-5
CMF (C2 H4 O)n C8 H10 O3
CCI PMS



CM 2

CRN 24493-59-2
CMF C11 H20 O5

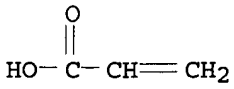


CM 3

CRN 113170-13-1
CMF (C3 H6 O . C2 H4 O)x . C3 H4 O2 . C H4 O

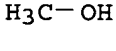
CM 4

CRN 79-10-7
CMF C3 H4 O2



CM 5

CRN 67-56-1
CMF C H4 O

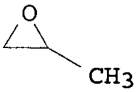


CM 6

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 7

CRN 75-56-9
CMF C3 H6 O



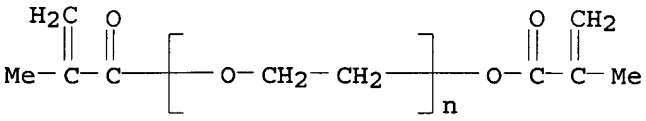
CM 8

CRN 75-21-8
CMF C2 H4 O

RN 830336-44-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[2-(2-methoxyethoxy)ethoxy]ethyl ester, polymer with methyloxirane block polymer with oxirane mono-2-propenoate ethyl ether, and α-(2-methyl-1-oxo-2-propenyl)-ω-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

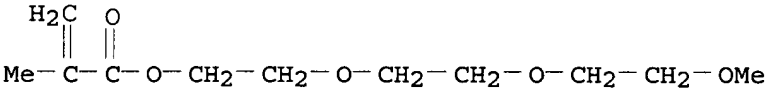
CM 1

CRN 25852-47-5
CMF (C2 H4 O)n C8 H10 O3
CCI PMS



CM 2

CRN 24493-59-2
CMF C11 H20 O5

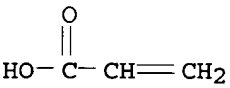


CM 3

CRN 830336-43-1
CMF (C3 H6 O . C2 H4 O)x . C3 H4 O2 . C2 H6 O

CM 4

CRN 79-10-7
CMF C3 H4 O2



CM 5

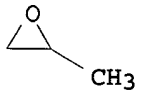
CRN 64-17-5
CMF C2 H6 O

CM 6

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 7

CRN 75-56-9
CMF C3 H6 O



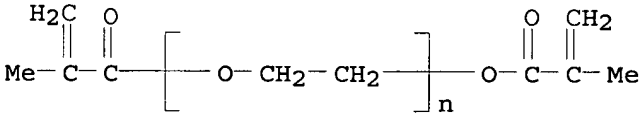
CM 8

CRN 75-21-8
CMF C2 H4 O

RN 830336-48-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[2-(2-methoxyethoxy)ethoxy]ethyl ester, polymer with methyloxirane block polymer with oxirane mono-2-propenoate butyl ether, and α-(2-methyl-1-oxo-2-propenyl)-ω-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

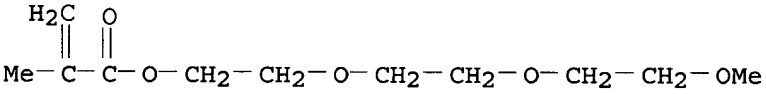
CM 1

CRN 25852-47-5
CMF (C2 H4 O)n C8 H10 O3
CCI PMS



CM 2

CRN 24493-59-2
CMF C11 H20 O5

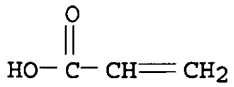


CM 3

CRN 113170-12-0
CMF C4 H10 O . (C3 H6 O . C2 H4 O)x . C3 H4 O2

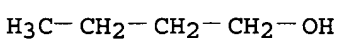
CM 4

CRN 79-10-7
CMF C3 H4 O2



CM 5

CRN 71-36-3
CMF C4 H10 O

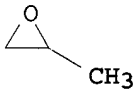


CM 6

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 7

CRN 75-56-9
CMF C3 H6 O



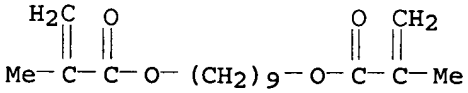
CM 8

CRN 75-21-8
CMF C2 H4 O

RN 830336-50-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,9-nonanediyl ester, polymer with 2-methoxyethyl 2-methyl-2-propenoate and methyloxirane block polymer with oxirane mono-2-propenoate ethyl ether (9CI) (CA INDEX NAME)

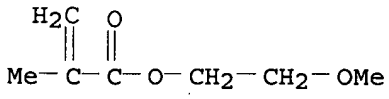
CM 1

CRN 65833-30-9
CMF C17 H28 O4



CM 2

CRN 6976-93-8
CMF C7 H12 O3

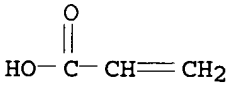


CM 3

CRN 830336-43-1
CMF (C3 H6 O . C2 H4 O)x . C3 H4 O2 . C2 H6 O

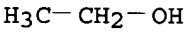
CM 4

CRN 79-10-7
CMF C3 H4 O2



CM 5

CRN 64-17-5
CMF C2 H6 O

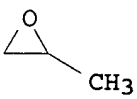


CM 6

CRN 106392-12-5
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 7

CRN 75-56-9
CMF C3 H6 O



CM 8

CRN 75-21-8
CMF C2 H4 O

L58 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:330299 HCAPLUS
DN 140:340424
TI Manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**
IN Iwase, Yoshiyuki; Nishijima, Koichi; Ogasawara, Hiroshi; Kutsuwa, Yoshikazu
PA Du Pont-Mitsui Polychemicals Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004123872	A2	20040422	JP 2002-289016	20021001
PRAI JP 2002-289016		20021001		

AB In the process, ethylene-unsatd. carboxylic acid copolymers are esterified with monohydroxy-terminated polyalkylene oxides and then reacted at residual carboxylic acids with end-capping agents to afford the claimed polyolefins useful for gel-type polymer batteries or capacitors. Thus, acrylic acid-ethylene copolymer (OH/carboxyl molar ratio 2.0) was esterified with polyethylene glycol monomethyl ether and then with benzoic acid to exhibit residual carboxylic acid 1.90% and high solubility in ethylene carbonate/propylene carbonate solvent after 6-mo storage at room temperature
IC ICM C08G081-02
ICS H01B013-00; H01M010-40
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 52, 76
ST esterified endcapped residual carboxylic polyolefin **electrolyte**; durable polymer **electrolyte** residual acid minimized
IT Polyoxyalkylenes, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic, graft, lower alkyl esters; manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)
IT Capacitors
(**electrolytes** for; manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)
IT Battery **electrolytes**
Polymer **electrolytes**
(manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)
IT 103-71-9, Phenyl isocyanate, reactions 111-26-2, n-Hexylamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(amidation agents; manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)
IT **680624-10-6DP**, butylated **680972-65-0P**, Acrylic acid-ethylene-Uniox M 550 graft copolymer benzoate 680972-66-1P, Acrylic acid-ethylene-oxirane graft copolymer methyl ether benzoate 680972-67-2DP, Acrylic acid-ethylene-oxirane graft copolymer methyl ether

sodium salt, butylated
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)

IT **680624-10-6DP**, butylated **680972-65-0P**, Acrylic acid-ethylene-Uniox M 550 graft copolymer benzoate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polyolefins containing less carboxylic acid residues for polymer **electrolytes**)

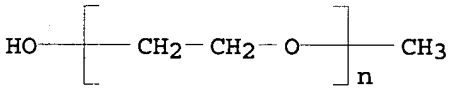
RN 680624-10-6 HCAPLUS
CN 2-Propenoic acid, polymer with ethene and α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 680624-09-3
CMF (C3 H4 O2 . (C2 H4 O)n C H4 O . C2 H4)x
CCI PMS

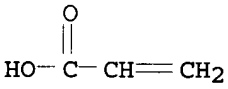
CM 2

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS



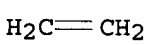
CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

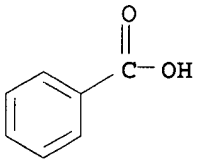
CRN 74-85-1
CMF C2 H4



RN 680972-65-0 HCAPLUS
CN 2-Propenoic acid, polymer with ethene and α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), benzoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 65-85-0
CMF C7 H6 O2

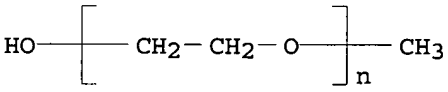


CM 2

CRN 680624-09-3
CMF (C3 H4 O2 . (C2 H4 O)n C H4 O . C2 H4)x
CCI PMS

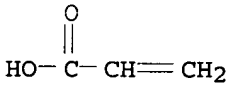
CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS



CM 4

CRN 79-10-7
CMF C3 H4 O2



CM 5

CRN 74-85-1
CMF C2 H4

L58 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:317760 HCAPLUS
DN 138:341090
TI Polymer gel **electrolyte** composition and its manufacture
IN Maruyama, Kunio; Miyagawa, Shinji; Yamaguchi, Shuichiro; Koyama, Noboru

applicants

PA Shirouma Science Co., Ltd., Japan; Fuji Heavy Industries Ltd.; Chemipro Kasei Ltd.; Mitsui and Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003123842	A2	20030425	JP 2001-322319	20011019
WO 2003036656	A1	20030501	WO 2002-JP10746	20021016

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

TW 593498	B	20040621	TW 2002-91124118	20021018
US 2004197662	A1	20041007	US 2004-828468	20040419
PRAI JP 2001-322319	A	20011019		
WO 2002-JP10746	A1	20021016		

AB The **electrolyte** composition, useful for electrochem. devices, has a 3-dimensional **crosslinked** structure of a **crosslinked** polymer network **matrix** in a mixed nonaq. solvent **electrolyte** solution, and a **non-crosslinked** polymer contained in the **matrix**; where the **non-crosslinked** polymer contains an ethylene unit and/or an propylene unit, and an unsatd. carboxylic acid obtained by esterizing a carboxyl group with a polyalkylene glycol protected by a hydroxyl group at its one end. The **electrolyte** composition is manufactured by dissolving the **non-crosslinked** polymer in the mixed nonaq. solvent **electrolyte** solution, adding a **crosslinkable** monomer to the mixture; and polymerizing the monomer with the mixture

IC ICM H01M010-40
ICS C08G081-02; C08L023-26; C08L101-02; H01B001-06; H01G009-025; H01G009-032
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST battery polymer gel **electrolyte** compn manuf
IT Battery **electrolytes**
Polymer **electrolytes**
(compns. and manufacture of polymer gel **electrolytes** for electrochem. devices)
IT **518044-75-2P**, Acrylic acid-ethylene copolymer, ester with polyethylene glycol monomethyl ether, polymer with polyethylene glycol diacrylate **518044-77-4P**, Ethylene-methacrylic acid copolymer, ester with ethylene glycol monoethyl ether, polymer with polyethylene glycol diacrylate **518044-79-6P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with N-methylol methacrylamide **518044-81-0P**, Ethylene-methacrylic acid copolymer, ester with ethylene glycol monoethyl ether, polymer with 3-hydroxyethyl methacrylate **518044-82-1P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with glycidyl acrylate **518044-83-2P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with 4,4'-diphenyl diisocyanate **518044-84-3P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with triphenyl

methane triisocyanate **518044-86-5P**, Ethylene-mathacrylic acid-propylene copolymer, ester with ethylene glycol monomethyl ether, polymer with polyethylene glycol diacrylate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(compns. and manufacture of polymer gel **electrolytes** for electrochem. devices)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 111-46-6, Diethylene glycol, uses 616-38-6, Dimethyl carbonate 623-53-0, Methyl ethyl carbonate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate **518044-78-5**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with 1,6-hexanediol dimethacrylate
RL: TEM (Technical or engineered material use); USES (Uses)
(compns. and manufacture of polymer gel **electrolytes** for electrochem. devices)

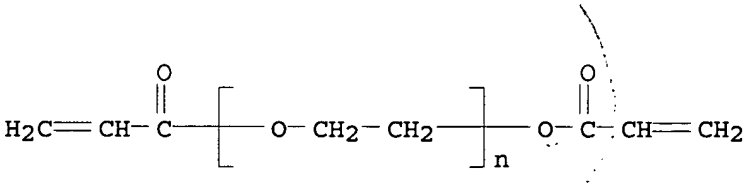
IT **518044-75-2P**, Acrylic acid-ethylene copolymer, ester with polyethylene glycol monomethyl ether, polymer with polyethylene glycol diacrylate **518044-77-4P**, Ethylene-methacrylic acid copolymer, ester with ethylene glycol monoethyl ether, polymer with polyethylene glycol diacrylate **518044-79-6P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with N-methylol methacrylamide **518044-81-0P**, Ethylene-methacrylic acid copolymer, ester with ethylene glycol monoethyl ether, polymer with 3-hydroxyethyl methacrylate **518044-82-1P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with glycidyl acrylate **518044-83-2P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with 4,4'-diphenyl diisocyanate **518044-84-3P**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with triphenyl methane triisocyanate **518044-86-5P**, Ethylene-mathacrylic acid-propylene copolymer, ester with ethylene glycol monomethyl ether, polymer with polyethylene glycol diacrylate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(compns. and manufacture of polymer gel **electrolytes** for electrochem. devices)

RN 518044-75-2 HCAPLUS

CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS



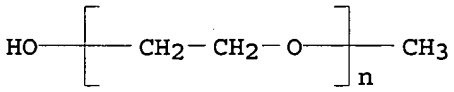
CM 2

CRN 177569-35-6

CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

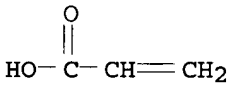


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

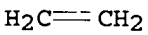
CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

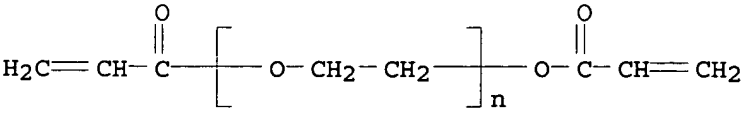
CRN 74-85-1
CMF C2 H4



RN 518044-77-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS

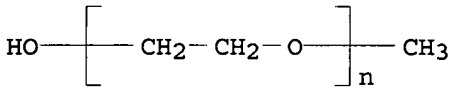


CM 2

CRN 518044-76-3
CMF (C4 H6 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

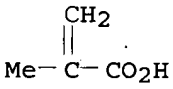


CM 4

CRN 25053-53-6
CMF (C4 H6 O2 . C2 H4)x
CCI PMS

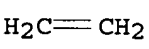
CM 5

CRN 79-41-4
CMF C4 H6 O2



CM 6

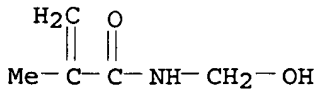
CRN 74-85-1
CMF C2 H4



RN 518044-79-6 HCAPLUS
CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with N-(hydroxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 923-02-4
CMF C5 H9 N O2

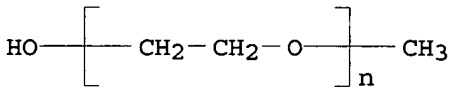


CM 2

CRN 177569-35-6
CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

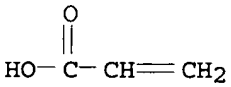


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

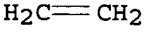
CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

CRN 74-85-1
CMF C2 H4

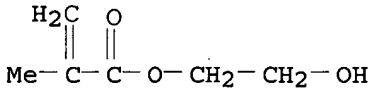


RN 518044-81-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 868-77-9

CMF C6 H10 O3

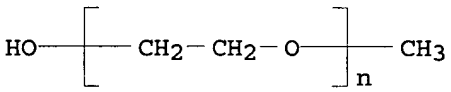


CM 2

CRN 518044-76-3
CMF (C4 H6 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

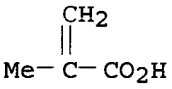


CM 4

CRN 25053-53-6
CMF (C4 H6 O2 . C2 H4)x
CCI PMS

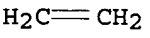
CM 5

CRN 79-41-4
CMF C4 H6 O2



CM 6

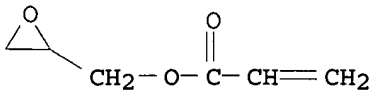
CRN 74-85-1
CMF C2 H4



RN 518044-82-1 HCAPLUS
CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with oxiranylmethyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 106-90-1
CMF C6 H8 O3

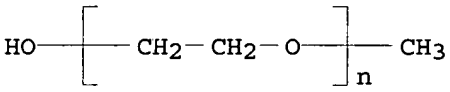


CM 2

CRN 177569-35-6
CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

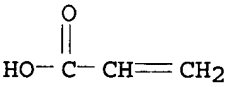


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

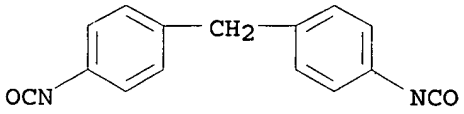
CRN 74-85-1
CMF C2 H4

RN 518044-83-2 HCAPLUS
CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 101-68-8
CMF C15 H10 N2 O2

isocyanate

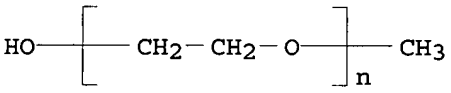


CM 2

CRN 177569-35-6
CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

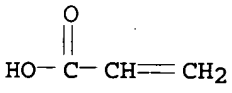


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

CRN 74-85-1
CMF C2 H4

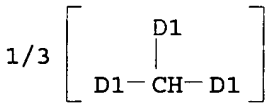
RN 518044-84-3 HCAPLUS

CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with 1,1',1''-methylidynetris[isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 25656-78-4
CMF C22 H13 N3 O3
CCI IDS

isocyanate



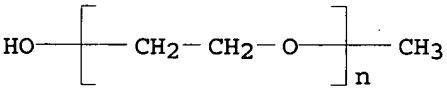
D1—NCO

CM 2

CRN 177569-35-6
CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

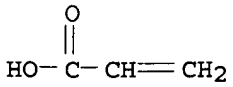


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

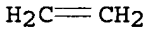
CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

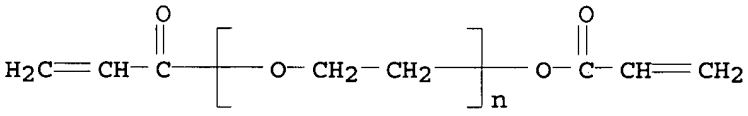
CRN 74-85-1
CMF C2 H4



RN 518044-86-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene and propene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft, polymer with α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS

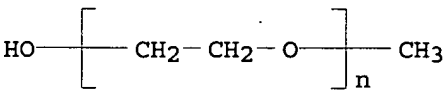


CM 2

CRN 518044-85-4
CMF (C4 H6 O2 . C3 H6 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

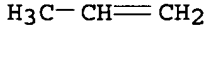


CM 4

CRN 28433-68-3
CMF (C4 H6 O2 . C3 H6 . C2 H4)x
CCI PMS

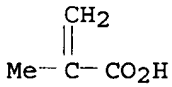
CM 5

CRN 115-07-1
CMF C3 H6



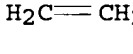
CM 6

CRN 79-41-4
CMF C4 H6 O2



CM 7

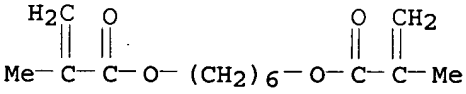
CRN 74-85-1
CMF C2 H4



IT **518044-78-5**, Acrylic acid-ethylene copolymer, ester with ethylene glycol monomethyl ether, polymer with 1,6-hexanediol dimethacrylate
RL: TEM (Technical or engineered material use); USES (Uses)
(compns. and manufacture of polymer gel **electrolytes** for electrochem. devices)
RN 518044-78-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 1,6-hexanediyl ester, polymer with ethene graft polymer with 2-propenoic acid ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 6606-59-3
CMF C14 H22 O4

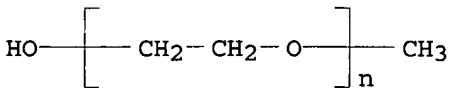


CM 2

CRN 177569-35-6
CMF (C3 H4 O2 . C2 H4)x . x (C2 H4 O)n C H4 O

CM 3

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

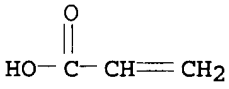


CM 4

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

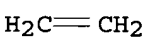
CM 5

CRN 79-10-7
CMF C3 H4 O2



CM 6

CRN 74-85-1
CMF C2 H4

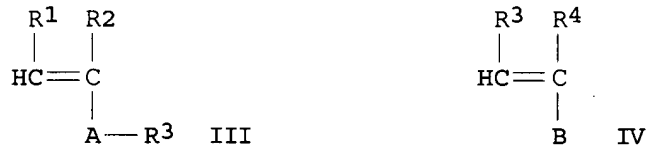


L58 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:673161 HCAPLUS
DN 137:219512
TI Ion conductor, secondary battery, and manufacture of the conductor and battery
IN Yamamoto, Tomoya; Akasaka, Satofumi; Kawakami, Soichiro
PA Canon Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 37 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002252037	A2	20020906	JP 2001-387423	20011220
	US 2002132169	A1	20020919	US 2001-23930	20011221
	US 2005196678	A1	20050908	US 2005-114050	20050426
PRAI	JP 2000-388370	A	20001221		
	JP 2001-387423	A	20011220		
	US 2001-23930	A3	20011221		

GI

I II



III IV

AB The ion conductor contains an **electrolyte** and a plasticizing solvent in a **crosslinked** polymer **matrix**, which has side chains I (R1, R2 = H or C≤2 alkyl groups, A contains at least a polyether unit, R3 = C≥6 alkyl group) attached to a main chain in specific directions. The polymer **matrix** may also contain segments II, where R3 and R4 = H or C≤2 alkyl groups and B is selected from polyether, cyano, amino, amido, and carbonate groups. The battery has the ion conductor between it cathode and anode, and is preferably a secondary Li battery. The ion conductor and battery are prepared by mixing monomer III with a plasticizing solvent, an **electrolyte**, and optionally monomer IV and polymerizing the monomers in the solution

IC ICM H01M010-40
ICS C08J005-18; C08K003-00; C08K005-00; C08L033-14; H01B001-06; H01B013-00

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST ion conducting polymer **electrolyte** compn manuf battery; polyether side chain polymer **matrix** lithium battery **electrolyte**

IT Battery **electrolytes**
(compns. and manufacture of ion conducting polymer **electrolyte** with polymer **matrix** having polyether side chains for secondary lithium batteries)

IT 455925-45-8P 455925-47-0P 455925-49-2P 455925-51-6P 455925-53-8P 455925-56-1P 455925-58-3P 455925-60-7P 455925-62-9P **455948-63-7P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(compns. and manufacture of ion conducting polymer **electrolyte** with polymer **matrix** having polyether side chains for secondary lithium batteries)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 14283-07-9, Lithium fluoroborate
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(compns. and manufacture of ion conducting polymer **electrolyte** with polymer **matrix** having polyether side chains for secondary lithium batteries)

IT **455948-63-7P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

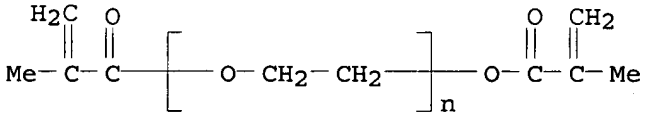
(compns. and manufacture of ion conducting polymer **electrolyte** with polymer **matrix** having polyether side chains for secondary lithium batteries)

RN 455948-63-7 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, mono-2-propenoate, nonylphenyl ether, polymer with α-(2-methyl-1-oxo-2-propenyl)-ω-[(2-methyl-1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25852-47-5
CMF (C2 H4 O)n C8 H10 O3
CCI PMS



CM 2

CRN 115166-38-6
CMF C15 H24 O . (C3 H6 O . C2 H4 O)x . C3 H4 O2

CM 3

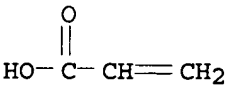
CRN 25154-52-3
CMF C15 H24 O
CCI IDS

D1—OH

D1—$(CH_2)_8$—Me

CM 4

CRN 79-10-7
CMF C3 H4 O2

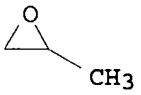


CM 5

CRN 9003-11-6
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 6

CRN 75-56-9
CMF C3 H6 O



CM 7

CRN 75-21-8
CMF C2 H4 O

L58 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:584289 HCAPLUS
DN 137:295297
TI Synthesis and gelation of fluoroalkyl end-capped copolymers containing glucosyl segments: Application to new fluorinated conductive polymer **electrolytes**
AU Sawada, Hideo; Murai, Yuka; Kawase, Tokuzo; Minami, Toshiyuki; Kyokane, Jun
CS Department of Chemistry, Nara National College of Technology, Nara, 639-1080, Japan
SO Journal of Applied Polymer Science (2002), 85(14), 2833-2838
CODEN: JAPNAB; ISSN: 0021-8995
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Fluoroalkyl end-capped copolymers containing glucosyl segments were prepared by the copolymn. of fluoroalkanoyl peroxides with 2-(glucosyloxy)ethyl methacrylate (GEMA) and comonomers such as acrylic acid (ACA) and methacrylate monomer-containing poly(oxyethylene) units (PME). Under **non-crosslinked** conditions, fluoroalkyl end-capped GEMA-ACA and GEMA-PME copolymers were found to cause a gelation in DMSO, where the aggregations of end-capped fluoroalkyl segments and the hydrogen-bonding interaction between hydroxyl segments are involved in establishing a phys. gel network, although the corresponding non-fluorinated GEMA copolymers could cause no gelation in DMSO. More interestingly, these fluorinated polymeric gelling **electrolytes** containing lithium salts exhibited a considerably high ionic conductivity of 10-3 S/cm level at room temperature
CC 35-4 (Chemistry of Synthetic High Polymers)
ST fluoroalkyl terminated glucosyloxyethyl methacrylate polymer; fluorinated conductive glucosyloxyethyl methacrylate polymer

IT Gelation
Ionic conductivity
Solid **electrolytes**
(synthesis and gelation of fluoroalkyl end-capped polymers containing glucosyl segments with application as conductive polymer **electrolytes**)

IT Fluoropolymers, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and gelation of fluoroalkyl end-capped polymers containing glucosyl segments with application as conductive polymer **electrolytes**)

IT 7439-93-2DP, Lithium, (glucosyloxy)ethyl methacrylate polymer complexes 29729-43-9P, 2-(Glucosyloxy)ethyl methacrylate homopolymer 56347-79-6DP, reaction products with 2-(glucosyloxy)ethyl methacrylate copolymers 133414-70-7DP, reaction products with 2-(glucosyloxy)ethyl methacrylate copolymers **142753-79-5DP**, Acrylic acid-2-(glucosyloxy)ethyl methacrylate copolymer, fluoroalkyl-terminated 468499-34-5DP, Polyethylene glycol monomethyl ether methacrylate-2-(glucosyloxy)ethyl methacrylate copolymer, fluoroalkyl-terminated
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and gelation of fluoroalkyl end-capped polymers containing glucosyl segments with application as conductive polymer **electrolytes**)

IT **142753-79-5DP**, Acrylic acid-2-(glucosyloxy)ethyl methacrylate copolymer, fluoroalkyl-terminated
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and gelation of fluoroalkyl end-capped polymers containing glucosyl segments with application as conductive polymer **electrolytes**)

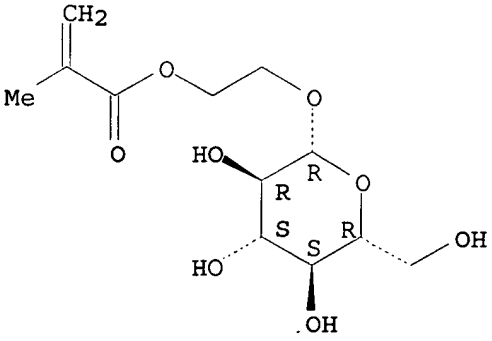
RN 142753-79-5 HCAPLUS

CN β-D-Glucopyranoside, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl, polymer with 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

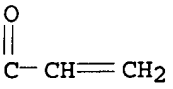
CRN 47087-43-4
CMF C12 H20 O8

Absolute stereochemistry.



CM 2

CRN 79-10-7
CMF C3 H4 O2



RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:315264 HCAPLUS
DN 136:343316
TI Gel-type polymer **electrolyte** that can be molded to a self-supported film for lithium batteries
IN Oyama, Noboru; Fujimoto, Yuki; Iwase, Yoshiyuki; Nishijima, Kouichi
PA Du Pont-Mitsui Polychemicals Co., Ltd., Japan
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

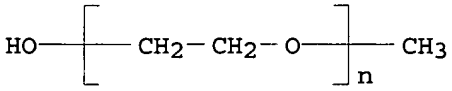
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002033765	A2	20020425	WO 2001-JP9138	20011018
WO 2002033765	A3	20031002		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2426129	AA	20020425	CA 2001-2426129	20011018
JP 2002198095	A2	20020712	JP 2001-320319	20011018
EP 1368849	A2	20031210	EP 2001-976730	20011018
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1555589	A	20041215	CN 2001-820726	20011018
PRAI JP 2000-318169	A	20001018		
WO 2001-JP9138	W	20011018		

AB In a gel-type polymer **electrolyte**, the polymer comprises (a) an ethylene-unsatd. carboxylic acid copolymer or a derivative thereof and (b) a polyalkylene oxide having a hydroxyl group at one terminal thereof or a derivative thereof, which are bonded together by an ester bond. The gel-type polymer **electrolyte** has a high ionic conductivity, and makes it possible to provide a cell which has excellent charge/discharge characteristics at low temps. as well as at high temps.
IC ICM H01M
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 76
ST lithium battery gel type polymer **electrolyte**
IT Battery **electrolytes**
Capacitors
Ionic conductivity
Swelling, physical
Transesterification
(gel-type polymer **electrolyte** that can be molded to

self-supported film for lithium batteries)
IT Polyoxyalkylenes, uses
RL: DEV (Device component use); USES (Uses)
(gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT Secondary batteries
(lithium; gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT Alcohols, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyhydric, crosslinking agent; gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT Fatty acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(unsatd., crosslinking agent; gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT Fatty acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(unsatd., esters, crosslinking agent; gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT 79-41-4, Methacrylic acid, reactions 18358-13-9, Methacrylate, reactions 25721-76-0, Polyethylene glycol dimethacrylate 26403-72-5, Polyethylene glycol diglycidyl ether
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 110-71-4 616-38-6, Dimethyl carbonate 872-50-4, n-Methylpyrrolidone, uses 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 35895-69-3, Tetraethylammonium trifluoromethanesulfonate
RL: DEV (Device component use); USES (Uses)
(gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT 9004-74-4DP, Polyethylene glycol monomethyl ether, reaction product of acrylic acid-ethylene copolymer 172588-43-1DP, Ethylene glycol-propylene glycol mono-2-ethylhexyl ether block copolymer, reaction products with acrylic acid-ethylene copolymer **177569-35-6DP**, reaction product polyethylene glycol monomethyl ether **177569-35-6DP**, reaction products with acrylic acid-ethylene copolymer 196521-53-6DP, reaction products with acrylic acid-ethylene copolymer
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT 104-15-4, p-Toluenesulfonic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
IT **177569-35-6DP**, reaction product polyethylene glycol monomethyl ether
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(gel-type polymer **electrolyte** that can be molded to self-supported film for lithium batteries)
RN 177569-35-6 HCAPLUS
CN 2-Propenoic acid, polymer with ethene, ester with α-methyl-ω-hydroxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

CM 1

CRN 9004-74-4
CMF (C2 H4 O)n C H4 O
CCI PMS

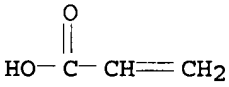


CM 2

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

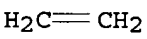
CM 3

CRN 79-10-7
CMF C3 H4 O2



CM 4

CRN 74-85-1
CMF C2 H4



L58 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:315005 HCAPLUS
DN 136:341174
TI Manufacture of hydrogel-forming polymers for hygienic articles
IN Frenz, Volker; Herfert, Norbert; Weismantel, Matthias; Riegel, Ulrich; Engelhardt, Friedrich; Funk, Ruediger
PA Basf Aktiengesellschaft, Germany
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002032975	A1	20020425	WO 2001-EP12030	20011017

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,

PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002012325 A5 20020429 AU 2002-12325 20011017
PRAI DE 2000-10051640 A 20001018
WO 2001-EP12030 W 20011017

AB A hydrogel-forming polymer with improved gel strength and increased **electrolyte** tolerance, useful in diapers, tampons, sanitary napkins, etc., comprises a polymer **matrix** consisting of 79.9-99.9% of ≥1 **crosslinked** monoethylenically unsatd. monomer A containing ≥1 acid group in partially neutralized form, 0-20% of ≥1 monoethylenically unsatd. comonomer B which is different from the monomer A, and 0.1-2% of monomers C (the percentages based on A + B + C), the monomers C being ethylenically unsatd. several times. The polymer **matrix** also consists of 0.3-50% (based on the total weight of A + B + C) of ≥1 hydrophilic polymer P distributed in the **matrix.** The polymer P comprises 0.3-50% (based on the total weight of A + B + C) of ≥1 homo- or copolymer of N-vinylpyrrolidone as component D containing ≥20% (based on the total weight of D) of N-vinylpyrrolidone incorporated by polymerization, and, optionally, 0-49.7% (based on the total weight of A + B + C) of ≥1 hydrophilic polymer substance E which is different from the component D. For example, radical polymerization of acrylic acid with pentaerythritol triallyl ether in the presence of polyvinylpyrrolidone followed by neutralization (aqueous NaOH), granulation, drying, spraying the granules with ethylene glycol diglycidyl ether and heating for 60 min at 140° gave a title hydrogel having centrifuge retention capacity 33.8 g/g, absorbency under load 24.7 g/g, saline flow conductivity 41 + 10-7 cm3 s/g, and reabsorbing capacity factor 92.

IC ICM C08F271-02
ICS C08F220-04; A61L015-60

CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 63

ST hydrogel forming acrylic acid vinylpyrrolidone graft copolymer manuf; superabsorbent acrylic acid vinylpyrrolidone graft copolymer manuf; pentaerythritol triallyl ether sodium acrylate vinylpyrrolidone graft copolymer superabsorbent

IT Medical goods
(absorbents; manufacture of hydrogel-forming polymers for hygienic articles)

IT Medical goods
(hygienic materials; manufacture of hydrogel-forming polymers for)

IT Hydrogels
(manufacture of hydrogel-forming polymers for hygienic articles)

IT Absorbents
(medical; manufacture of hydrogel-forming polymers for hygienic articles)

IT 497-25-6, 2-Oxazolidinone 2224-15-9, Ethylene glycol diglycidyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(**crosslinking** agent; manufacture of hydrogel-forming polymers for hygienic articles)

IT 416841-33-3P, Allyl methacrylate-Sodium acrylate-N-Vinyl-2-pyrrolidone graft copolymer 416841-34-4P, Allyl methacrylate-Sodium acrylate-Vinyl acetate-N-Vinyl-2-pyrrolidone graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of hydrogel-forming polymers for hygienic articles)

IT 416841-32-2DP, Acrylic acid-Pentaerythritol triallyl ether-N-Vinyl-2-pyrrolidone graft copolymer, sodium salts 416841-35-5DP, Acrylic acid-Tetraallyloxyethane-N-Vinyl-2-pyrrolidone graft copolymer, sodium salts **416841-36-6P**, 2-(Dimethylamino)ethyl methacrylate-

Polyethylene glycol diacrylate-Sodium acrylate-N-Vinyl-2-pyrrolidone graft copolymer **416841-37-7P**, Acrylic acid-Sodium acrylate-N-Vinyl-2-pyrrolidone-SR 9035 graft copolymer **416841-38-8P**, Sodium acrylate-SR 9035-Styrene-N-Vinyl-2-pyrrolidone graft copolymer **416841-39-9P**, 2-(Dimethylamino)ethyl methacrylate-Polyethylene glycol diacrylate-Sodium acrylate-Styrene-N-Vinyl-2-pyrrolidone graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(surface-**crosslinked**; manufacture of hydrogel-forming polymers for hygienic articles)

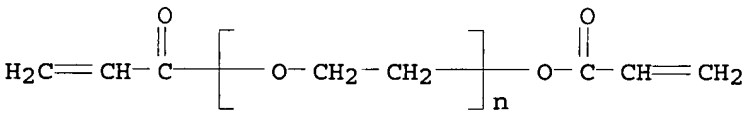
IT **416841-36-6P**, 2-(Dimethylamino)ethyl methacrylate-Polyethylene glycol diacrylate-Sodium acrylate-N-Vinyl-2-pyrrolidone graft copolymer **416841-37-7P**, Acrylic acid-Sodium acrylate-N-Vinyl-2-pyrrolidone-SR 9035 graft copolymer **416841-38-8P**, Sodium acrylate-SR 9035-Styrene-N-Vinyl-2-pyrrolidone graft copolymer **416841-39-9P**, 2-(Dimethylamino)ethyl methacrylate-Polyethylene glycol diacrylate-Sodium acrylate-Styrene-N-Vinyl-2-pyrrolidone graft copolymer
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(surface-**crosslinked**; manufacture of hydrogel-forming polymers for hygienic articles)

RN 416841-36-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with 1-ethenyl-2-pyrrolidinone, α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) and sodium 2-propenoate, graft (9CI) (CA INDEX NAME)

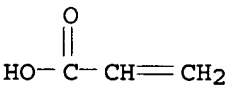
CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS



CM 2

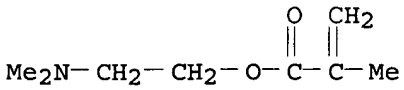
CRN 7446-81-3
CMF C3 H4 O2 . Na



● Na

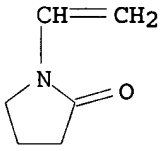
CM 3

CRN 2867-47-2
CMF C8 H15 N O2



CM 4

CRN 88-12-0
CMF C6 H9 N O

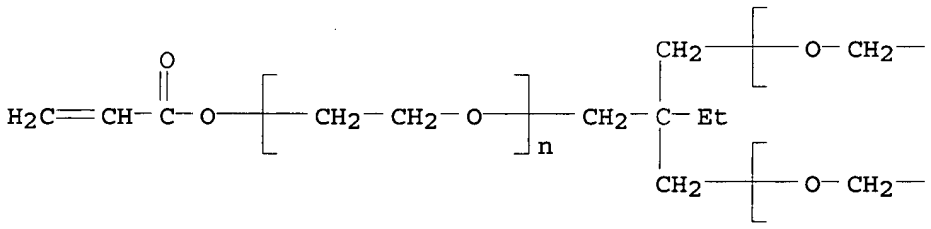


RN 416841-37-7 HCAPLUS
CN 2-Propenoic acid, polymer with 1-ethenyl-2-pyrrolidinone, α-hydro-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) and sodium 2-propenoate, graft (9CI) (CA INDEX NAME)

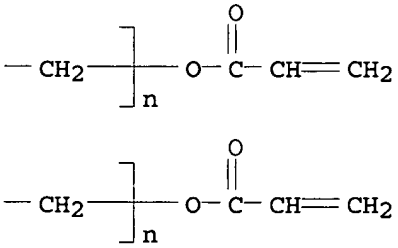
CM 1

CRN 28961-43-5
CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C15 H20 O6
CCI PMS

PAGE 1-A

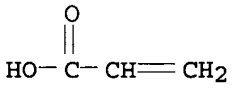


PAGE 1-B



CM 2

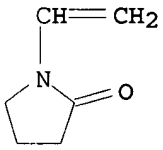
CRN 7446-81-3
CMF C3 H4 O2 . Na



● Na

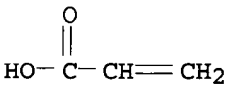
CM 3

CRN 88-12-0
CMF C6 H9 N O



CM 4

CRN 79-10-7
CMF C3 H4 O2

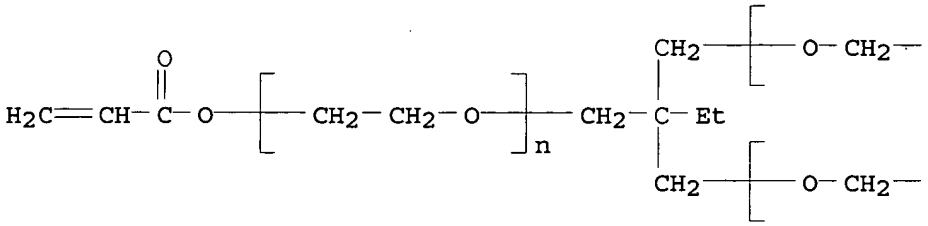


RN 416841-38-8 HCAPLUS
CN 2-Propenoic acid, sodium salt, polymer with ethenylbenzene, 1-ethenyl-2-pyrrolidinone and α-hydro-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), graft (9CI) (CA INDEX NAME)

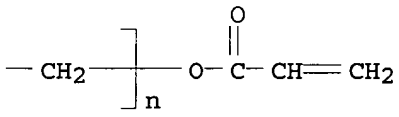
CM 1

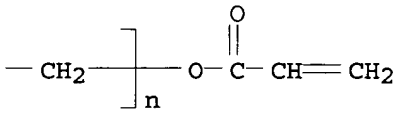
CRN 28961-43-5
CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C15 H20 O6
CCI PMS

PAGE 1-A



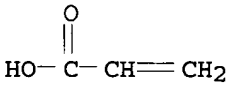
PAGE 1-B





CM 2

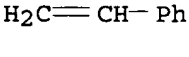
CRN 7446-81-3
CMF C3 H4 O2 . Na



● Na

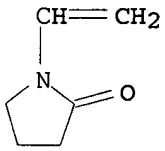
CM 3

CRN 100-42-5
CMF C8 H8



CM 4

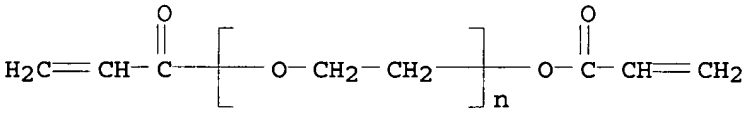
CRN 88-12-0
CMF C6 H9 N O



RN 416841-39-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with ethenylbenzene, 1-ethenyl-2-pyrrolidinone, α-(1-oxo-2-propenyl)-ω-[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) and sodium 2-propenoate, graft (9CI) (CA INDEX NAME)

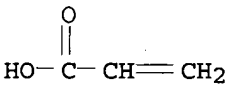
CM 1

CRN 26570-48-9
CMF (C2 H4 O)n C6 H6 O3
CCI PMS



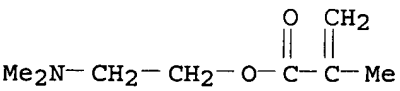
CM 2

CRN 7446-81-3
CMF C3 H4 O2 . Na



CM 3

CRN 2867-47-2
CMF C8 H15 N O2



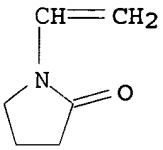
CM 4

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

CM 5

CRN 88-12-0
CMF C6 H9 N O



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:359775 HCAPLUS
DN 131:7534
TI A proton exchange membrane fuel cell power system
IN Fuglevand, William A.; Bayyuk, Shiblihanna I.; Lloyd, Greg A.; Devries, Peter D.; Lott, David R.; Scartozzi, John P.; Somers, Gregory M.; Stokes, Ronald G.
PA Avista Labs, USA
SO PCT Int. Appl., 145 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9927599	A1	19990603	WO 1998-US21769	19981015
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6030718	A	20000229	US 1997-979853	19971120
	CA 2300846	AA	19990603	CA 1998-2300846	19981015
	AU 9910889	A1	19990615	AU 1999-10889	19981015
	AU 741975	B2	20011213		
	BR 9814617	A	20001003	BR 1998-14617	19981015
	EP 1040529	A1	20001004	EP 1998-953546	19981015
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001524740	T2	20011204	JP 2000-522640	19981015
	US 6218035	B1	20010417	US 1999-470321	19991221
	JP 2005135926	A2	20050526	JP 2005-1539	20050106
	JP 2005142167	A2	20050602	JP 2005-1518	20050106
PRAI	US 1997-979853	A	19971120		
	JP 2000-522640	A3	19981015		

WO 1998-US21769 W 19981015

AB A proton exchange membrane fuel cell power system (for producing elec. power) includes a plurality of discrete fuel cell modules having at least two membrane electrode diffusion assemblies, each of the membrane electrode diffusion assemblies having opposite anode and cathode sides; a pair of current collectors individually disposed in juxtaposed ohmic elec. contact with opposite sides of the membrane electrode diffusion assemblies; and individual force application assemblies applying a given force to the pair of current collectors and the individual membrane electrode diffusion assemblies. The proton exchange fuel cell power system also includes an enclosure mounting a plurality of subracks which receive the discrete fuel cell modules. Addnl., a control system is disclosed which optimizes the performance parameters of the discrete proton exchange fuel cell modules.

IC ICM H01M008-10
ICS H01M008-24

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST proton exchange membrane fuel cell power

IT Waxes
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; proton exchange membrane fuel cell power system)

IT Copying paper
(carbon paper; proton exchange membrane fuel cell power system)

IT Carbon fibers, uses
RL: DEV (Device component use); USES (Uses)
(cloth; proton exchange membrane fuel cell power system)

IT Power
(generation; proton exchange membrane fuel cell power system)

IT Fuel cell **electrolytes**
Fuel cells
(proton exchange membrane fuel cell power system)

IT Acrylic polymers, uses
Polymers, uses
RL: DEV (Device component use); USES (Uses)
(proton exchange membrane fuel cell power system)

IT 9002-88-4, Polyethylene
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; proton exchange membrane fuel cell power system)

IT 7440-02-0, Nickel, uses 7440-50-8, Copper, uses 12597-68-1, Stainless steel, uses
RL: DEV (Device component use); USES (Uses)
(current collector; proton exchange membrane fuel cell power system)

IT 225644-20-2, 2-Propenoic acid, 2-methyl-, 3-sulfopropyl ester-polypropylene glycol monomethacrylate-2-Propenoic acid, 2-methyl-, 2-hydroxypropyl ester-2-Propenoic acid, 2-methyl-, 2-hydroxy-1,3-propanediyl ester-1,2-Dimethoxyethane-ethylene graft copolymer 225644-21-3, 3-Sulfopropyl methacrylate-polypropylene glycol monomethacrylate copolymer 225644-22-4, 3-Sulfopropyl methacrylate-polyethylene glycol monomethacrylate copolymer 225644-63-3, 3-Sulfopropyl methacrylate-hydroxypropyl methacrylate copolymer **225644-64-4**, 3-Allyloxy-2-hydroxy-1-propanesulfonic acid-polypropylene glycol monomethacrylate-hydroxypropyl methacrylate-diethylene glycol monomethacrylate-ethylene graft copolymer **225644-65-5 225644-66-6**
RL: DEV (Device component use); USES (Uses)
(proton exchange membrane fuel cell power system)

IT 7440-04-2, Osmium, uses 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-16-6, Rhodium, uses 7440-18-8, Ruthenium, uses 7440-74-6, Indium, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(proton exchange membrane fuel cell power system)

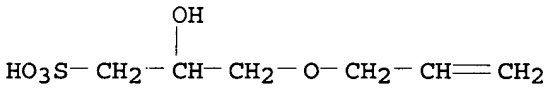
IT **225644-64-4**, 3-Allyloxy-2-hydroxy-1-propanesulfonic acid-polypropylene glycol monomethacrylate-hydroxypropyl methacrylate-diethylene glycol monomethacrylate-ethylene graft copolymer **225644-65-5 225644-66-6**
RL: DEV (Device component use); USES (Uses)
(proton exchange membrane fuel cell power system)

RN 225644-64-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(2-hydroxyethoxy)ethyl ester, polymer with ethene, 2-hydroxy-3-(2-propenyloxy)-1-propanesulfonic acid, α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,2-propanediol mono(2-methyl-2-propenoate), graft (9CI) (CA INDEX NAME)

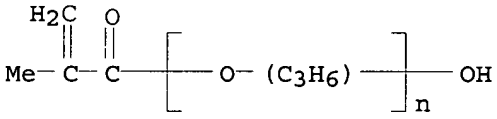
CM 1

CRN 94928-31-1
CMF C6 H12 O5 S



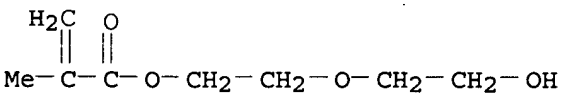
CM 2

CRN 39420-45-6
CMF (C3 H6 O)n C4 H6 O2
CCI IDS, PMS



CM 3

CRN 2351-43-1
CMF C8 H14 O4



CM 4

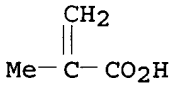
CRN 74-85-1
CMF C2 H4

CM 5

CRN 27813-02-1
CMF C7 H12 O3
CCI IDS

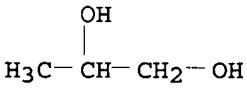
CM 6

CRN 79-41-4
CMF C4 H6 O2



CM 7

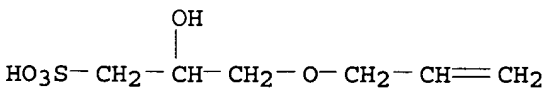
CRN 57-55-6
CMF C3 H8 O2



RN 225644-65-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, diester with 1,2,3-propanetriol, polymer with 1,1'-[1,2-ethanediylbis(oxy)]bis[ethene], ethene, 2-hydroxy-3-(2-propenyloxy)-1-propanesulfonic acid, α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxypoly(oxy-1,2-ethanediyl) and 1,2-propanediol mono(2-methyl-2-propenoate), graft (9CI) (CA INDEX NAME)

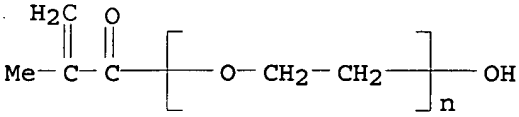
CM 1

CRN 94928-31-1
CMF C6 H12 O5 S



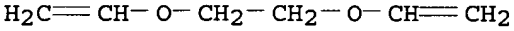
CM 2

CRN 25736-86-1
CMF (C2 H4 O)n C4 H6 O2
CCI PMS



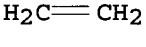
CM 3

CRN 764-78-3
CMF C6 H10 O2



CM 4

CRN 74-85-1
CMF C2 H4

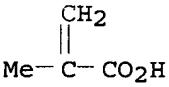


CM 5

CRN 28497-59-8
CMF C11 H16 O5
CCI IDS

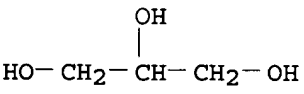
CM 6

CRN 79-41-4
CMF C4 H6 O2



CM 7

CRN 56-81-5
CMF C3 H8 O3



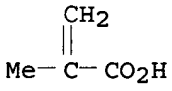
CM 8

CRN 27813-02-1

CMF C7 H12 O3
CCI IDS

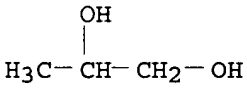
CM 9

CRN 79-41-4
CMF C4 H6 O2



CM 10

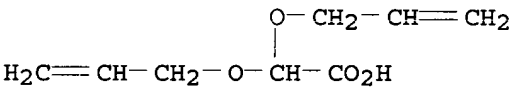
CRN 57-55-6
CMF C3 H8 O2



RN 225644-66-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol, polymer with bis(2-propenyloxy)acetic acid, 1,1'-[1,2-ethanediylbis(oxy)]bis[ethene], ethene, 2-hydroxy-3-(2-propenyloxy)-1-propanesulfonic acid and α-(2-methyl-1-oxo-2-propenyl)-ω-hydroxypoly(oxy-1,2-ethanediyl), graft (9CI) (CA INDEX NAME)

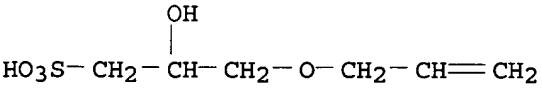
CM 1

CRN 161823-92-3
CMF C8 H12 O4



CM 2

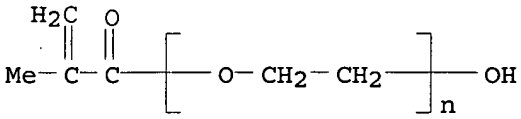
CRN 94928-31-1
CMF C6 H12 O5 S



CM 3

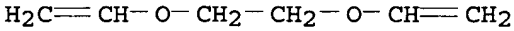
CRN 25736-86-1

CMF (C2 H4 O)n C4 H6 O2
CCI PMS



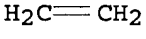
CM 4

CRN 764-78-3
CMF C6 H10 O2



CM 5

CRN 74-85-1
CMF C2 H4

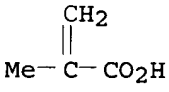


CM 6

CRN 27813-02-1
CMF C7 H12 O3
CCI IDS

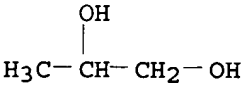
CM 7

CRN 79-41-4
CMF C4 H6 O2



CM 8

CRN 57-55-6
CMF C3 H8 O2



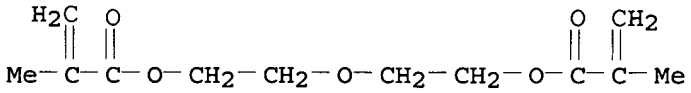
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L58 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:934785 HCAPLUS
DN 124:12268
TI Polypropylene separator grafted with hydrophilic monomers for lithium batteries
AU Gineste, Jean Luc; Pourcelly, Gerald
CS Laboratoire de Materiaux et Procedes Membranaires, UMR 9987 CNRS, BP 5051, Montpellier, 34033, Fr.
SO Journal of Membrane Science (1995), 107(1-2), 155-64
CODEN: JMESDO; ISSN: 0376-7388
PB Elsevier
DT Journal
LA English
AB Acrylic acid and diethylene glycol dimethacrylate were grafted onto 50 μm polypropylene films. The physicochem. properties of the polymer films obtained were studied vs. the characteristics of grafting. The influence of temperature and monomer content on grafting kinetics is pointed out. Cycling performances of secondary lithium batteries including these grafted films as separators are also presented.
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST polypropylene grafted separator lithium battery; acrylic acid propylene grafted polymer separator; ethylene glycol dimethacrylate propylene grafted polymer
IT Batteries, secondary
(lithium; performance of lithium batteries with polypropylene separator grafted with acrylic acid and diethylene glycol dimethacrylate)
IT Electric resistance
(of grafted polypropylene battery separator as function of **electrolyte** composition)
IT Electric conductivity and conduction
(of lithium hexafluoroarsenate **electrolyte** containing propylene carbonate, ethylene carbonate, and dimethoxyethane)
IT Batteries, secondary
(separators, polypropylene separator grafted with acrylic acid and diethylene glycol dimethacrylate for lithium batteries)
IT 29935-35-1, Lithium hexafluoroarsenate
RL: DEV (Device component use); USES (Uses)
(**electrolyte**; performance of lithium batteries with polypropylene separator grafted with acrylic acid and diethylene glycol dimethacrylate)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 110-71-4
RL: DEV (Device component use); USES (Uses)
(lithium hexafluoroarsenate **electrolyte** containing; performance of lithium batteries with polypropylene separator grafted with acrylic acid and diethylene glycol dimethacrylate)
IT **171370-46-0P**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(polypropylene separator grafted with acrylic acid and diethylene glycol dimethacrylate for lithium batteries)
IT **171370-46-0P**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(polypropylene separator grafted with acrylic acid and diethylene

glycol dimethacrylate for lithium batteries)
RN 171370-46-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, oxydi-2,1-ethanediyl ester, polymer with 1-propene and 2-propenoic acid, graft (9CI) (CA INDEX NAME)

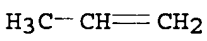
CM 1

CRN 2358-84-1
CMF C12 H18 O5



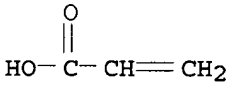
CM 2

CRN 115-07-1
CMF C3 H6



CM 3

CRN 79-10-7
CMF C3 H4 O2



L58 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1995:856589 HCAPLUS
DN 124:11099
TI Coatings of acrylic styrene copolymers containing chlorinated polyolefins and polyurethanes for polyolefin substrates
IN Ito, Juichi; Kawamoto, Masayuki; Kagono, Hiroshi
PA Mitsui Toatsu Chemicals, Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07196979	A2	19950801	JP 1993-335514	19931228
PRAI JP 1993-335514		19931228		

AB The compns., useful for 1-pot coatings on polyolefin substrates showing balanced solvent and chemical resistance and elongation and processability, contain (A) mixts. of styrene (I) 5-40, (meth)acrylic monomers 10-85, and chlorinated polyolefins with Cl contents ≤50% 10-50%, (B) polyester polyols with number-average mol. weight (Mn) 650-60,000 chain-extended by

diisocyanates, and (C) OH-reactive crosslinking resins at A/B = 15-95/5-85 and (NCO equivalent in C)/(OH equivalent in A and B) (R) = 0.1-2. Thus, 60 parts (solids) reaction products from a blend of 30% Superchlone L 206 (chlorinated polypropylene) and 70% 28:0.7:99:13 mixture of I, methacrylic acid, Bu acrylate, and 2-chloro-2-hydroxypropyl methacrylate, 40 parts (solids) 9.0:133:160:46.4 ethylene glycol-neopentyl glycol-adipic acid-IPDI copolymer, 5.7 parts Olester NP 1000, and 59 parts TiO2 were mixed to give a composition (R = 1), which was applied onto a polypropylene plate and baked to give a test piece showing a balance of elongation and water and weathering resistance.

IC ICM C09D151-06
ICS C09D175-04

CC 42-10 (Coatings, Inks, and Related Products)

ST acrylic styrene copolymer blend coating; polyolefin substrate coating elongation; solvent chem resistance polyolefin coating; polyester polyurethane blend acrylic resin; grafted chlorinated polyolefin blend coating; hydroxy substituted resin polyisocyanate hardeners

IT Coating materials
(blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT Urethane polymers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-polyester-, blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT Polyesters, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-polyurethane-, blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT Urethane polymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(polyester-, precured; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT Alkenes, miscellaneous
RL: MSC (Miscellaneous)
(polymers, olefins, substrates; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT **171353-30-3P 171353-31-4P 171353-32-5P**
171353-33-6P 171353-34-7P 171353-35-8P
171353-36-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT 159777-57-8, Superchlone 813A 159777-88-5, Superchlone L 206
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT 96024-70-3, Olester NP 1000
RL: MOA (Modifier or additive use); USES (Uses)

(hardeners; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT **41579-09-3P** 56793-67-0P 56927-88-9P 58048-89-8P
63744-68-3P **153810-70-9P** 171353-23-4P 171353-24-5P
171353-25-6P 171353-26-7P 171353-27-8P 171353-28-9P
171353-29-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(precured; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT 9003-07-0, Polypropylene
RL: MSC (Miscellaneous)
(substrates; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

IT **171353-30-3P 171353-31-4P 171353-32-5P**
171353-33-6P 171353-34-7P 171353-35-8P
171353-36-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

RN 171353-30-3 HCAPLUS

CN Hexanedioic acid, polymer with butyl 2-propenoate, 3-chloro-2-hydroxypropyl 2-methyl-2-propenoate, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, ethenylbenzene, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-methyl-2-propenoic acid, Olester NB 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

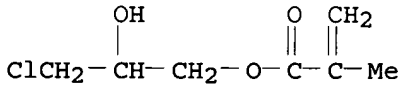
CM 1

CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

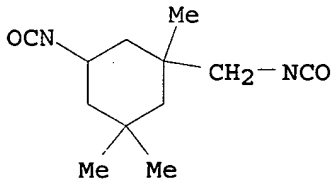
CM 2

CRN 13159-52-9
CMF C7 H11 Cl O3



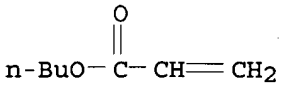
CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



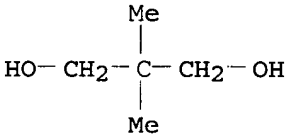
CM 4

CRN 141-32-2
CMF C7 H12 O2



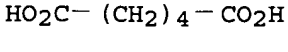
CM 5

CRN 126-30-7
CMF C5 H12 O2



CM 6

CRN 124-04-9
CMF C6 H10 O4



CM 7

CRN 115-07-1
CMF C3 H6

CM 8

CRN 107-21-1

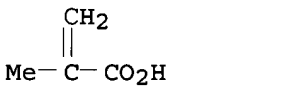
CMF C2 H6 O2

CM 9

CRN 100-42-5
CMF C8 H8

CM 10

CRN 79-41-4
CMF C4 H6 O2



RN 171353-31-4 HCAPLUS
CN Decanedioic acid, polymer with butyl 2-propenoate, 3-chloro-2-hydroxypropyl 2-methyl-2-propenoate, 2,2-dimethyl-1,3-propanediol, ethenylbenzene, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-methyl-2-propenoic acid, Olester NP 1000, 2,2'-oxybis[ethanol] and 1-propene, graft (9CI) (CA INDEX NAME)

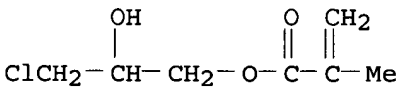
CM 1

CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

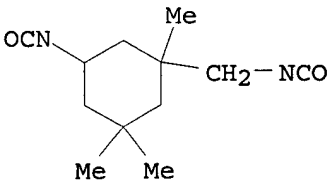
CM 2

CRN 13159-52-9
CMF C7 H11 Cl O3



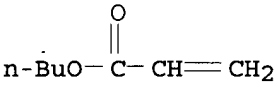
CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



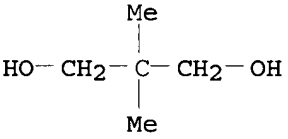
CM 4

CRN 141-32-2
CMF C7 H12 O2



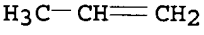
CM 5

CRN 126-30-7
CMF C5 H12 O2



CM 6

CRN 115-07-1
CMF C3 H6



CM 7

CRN 111-46-6
CMF C4 H10 O3

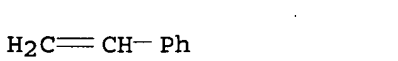
CM 8

CRN 111-20-6

CMF C10 H18 O4

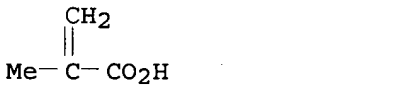
CM 9

CRN 100-42-5
CMF C8 H8



CM 10

CRN 79-41-4
CMF C4 H6 O2



RN 171353-32-5 HCAPLUS
CN Hexanedioic acid, polymer with butyl 2-propenoate, 3-chloro-2-hydroxypropyl 2-methyl-2-propenoate, 2,2-dimethyl-1,3-propanediol, ethenylbenzene, 2,5-furandione, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-methyl-2-propenoic acid, Olester NP 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

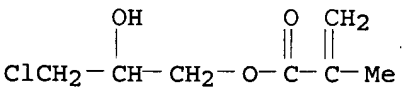
CM 1

CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

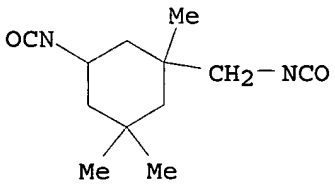
CM 2

CRN 13159-52-9
CMF C7 H11 Cl O3



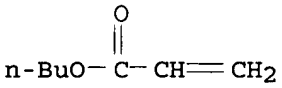
CM 3

CRN 4098-71-9
CMF C12 H18 N2 O2



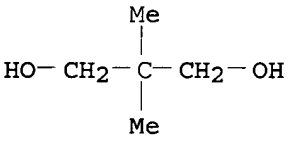
CM 4

CRN 141-32-2
CMF C7 H12 O2



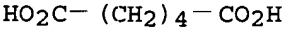
CM 5

CRN 126-30-7
CMF C5 H12 O2



CM 6

CRN 124-04-9
CMF C6 H10 O4



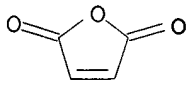
CM 7

CRN 115-07-1
CMF C3 H6

CM 8

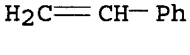
CRN 108-31-6

CMF C4 H2 O3



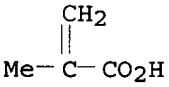
CM 9

CRN 100-42-5
CMF C8 H8



CM 10

CRN 79-41-4
CMF C4 H6 O2



RN 171353-33-6 HCAPLUS
CN Hexanedioic acid, polymer with butyl 2-methyl-2-propenoate, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, ethenylbenzene, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyl 2-methyl-2-propenoate, 2-methyl-2-propenoic acid, Olester NP 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

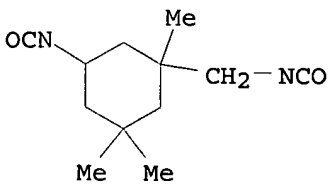
CM 1

CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

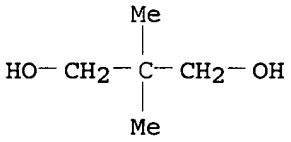
CM 2

CRN 4098-71-9
CMF C12 H18 N2 O2



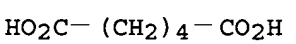
CM 3

CRN 126-30-7
CMF C5 H12 O2



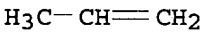
CM 4

CRN 124-04-9
CMF C6 H10 O4



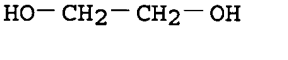
CM 5

CRN 115-07-1
CMF C3 H6



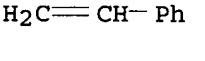
CM 6

CRN 107-21-1
CMF C2 H6 O2



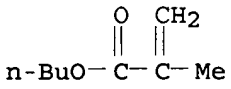
CM 7

CRN 100-42-5
CMF C8 H8



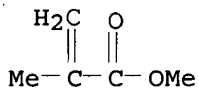
CM 8

CRN 97-88-1
CMF C8 H14 O2



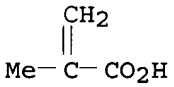
CM 9

CRN 80-62-6
CMF C5 H8 O2



CM 10

CRN 79-41-4
CMF C4 H6 O2



RN 171353-34-7 HCAPLUS
CN Hexanedioic acid, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, ethenylbenzene, 2-hydroxyethyl 2-methyl-2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-methyl-2-propenoic acid, Olester NP 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

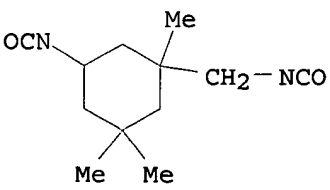
CM 1

CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

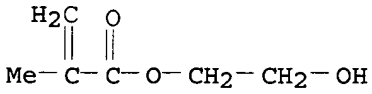
CM 2

CRN 4098-71-9
CMF C12 H18 N2 O2



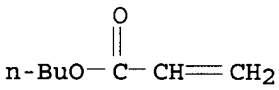
CM 3

CRN 868-77-9
CMF C6 H10 O3



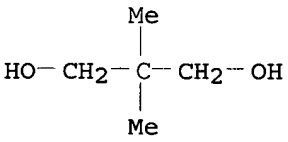
CM 4

CRN 141-32-2
CMF C7 H12 O2



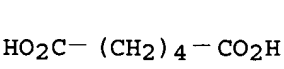
CM 5

CRN 126-30-7
CMF C5 H12 O2



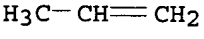
CM 6

CRN 124-04-9
CMF C6 H10 O4



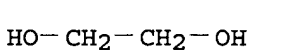
CM 7

CRN 115-07-1
CMF C3 H6



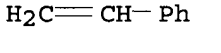
CM 8

CRN 107-21-1
CMF C2 H6 O2



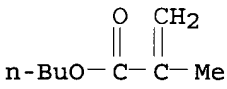
CM 9

CRN 100-42-5
CMF C8 H8



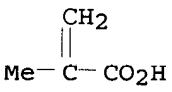
CM 10

CRN 97-88-1
CMF C8 H14 O2



CM 11

CRN 79-41-4
CMF C4 H6 O2



RN 171353-35-8 HCAPLUS
CN Hexanedioic acid, polymer with butyl 2-methyl-2-propenoate, butyl 2-propenoate, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, ethenylbenzene, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, 2-methyl-2-propenoic acid, Olester NP 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

CM 1

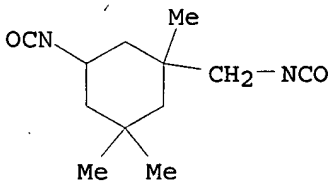
CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

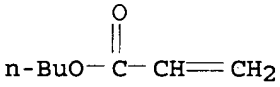
CRN 4098-71-9

CMF C12 H18 N2 O2



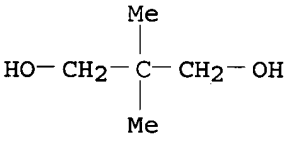
CM 3

CRN 141-32-2
CMF C7 H12 O2



CM 4

CRN 126-30-7
CMF C5 H12 O2

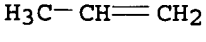


CM 5

CRN 124-04-9
CMF C6 H10 O4

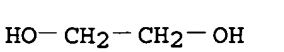
CM 6

CRN 115-07-1
CMF C3 H6



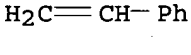
CM 7

CRN 107-21-1
CMF C2 H6 O2



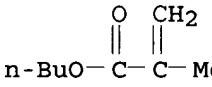
CM 8

CRN 100-42-5
CMF C8 H8



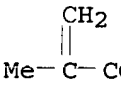
CM 9

CRN 97-88-1
CMF C8 H14 O2



CM 10

CRN 79-41-4
CMF C4 H6 O2



RN 171353-36-9 HCAPLUS
CN Hexanedioic acid, polymer with butyl 2-propenoate, 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol, ethenylbenzene, ethyl 2-propenoate, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane, methyl 2-methyl-2-propenoate, 2-methyl-2-propenoic acid, Olester NP 1000 and 1-propene, graft (9CI) (CA INDEX NAME)

CM 1

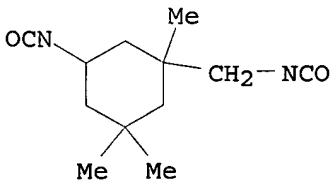
CRN 96024-70-3
CMF Unspecified
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

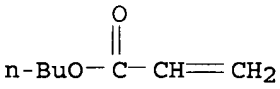
CRN 4098-71-9

CMF C12 H18 N2 O2



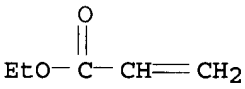
CM 3

CRN 141-32-2
CMF C7 H12 O2



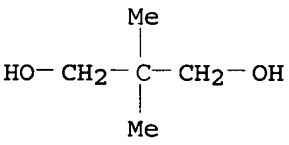
CM 4

CRN 140-88-5
CMF C5 H8 O2



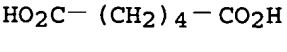
CM 5

CRN 126-30-7
CMF C5 H12 O2



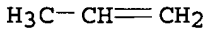
CM 6

CRN 124-04-9
CMF C6 H10 O4



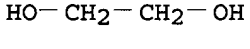
CM 7

CRN 115-07-1
CMF C3 H6



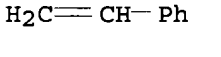
CM 8

CRN 107-21-1
CMF C2 H6 O2



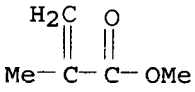
CM 9

CRN 100-42-5
CMF C8 H8



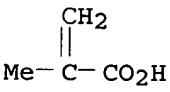
CM 10

CRN 80-62-6
CMF C5 H8 O2



CM 11

CRN 79-41-4
CMF C4 H6 O2

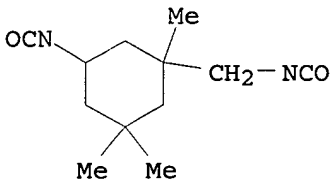


IT **41579-09-3P 153810-70-9P 171353-29-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(precured; blends of acrylic styrene copolymer partially grafted with chlorinated polyolefins and polyester-polyurethanes for coatings on polyolefin substrates)

RN 41579-09-3 HCAPLUS
CN Hexanedioic acid, polymer with 2,2-dimethyl-1,3-propanediol, 2,5-furandione and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

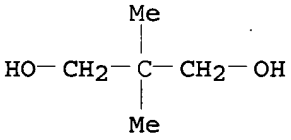
CM 1

CRN 4098-71-9
CMF C12 H18 N2 O2



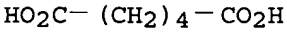
CM 2

CRN 126-30-7
CMF C5 H12 O2



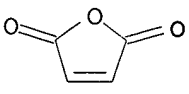
CM 3

CRN 124-04-9
CMF C6 H10 O4



CM 4

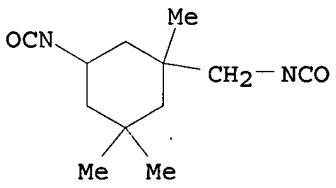
CRN 108-31-6
CMF C4 H2 O3



RN 153810-70-9 HCAPLUS
CN Hexanedioic acid, polymer with 2,2-dimethyl-1,3-propanediol, 1,2-ethanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

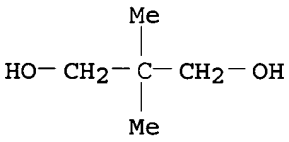
CM 1

CRN 4098-71-9
CMF C12 H18 N2 O2



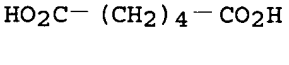
CM 2

CRN 126-30-7
CMF C5 H12 O2



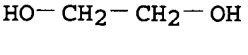
CM 3

CRN 124-04-9
CMF C6 H10 O4



CM 4

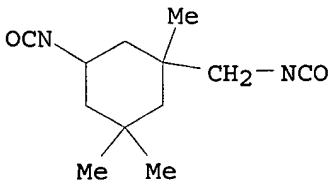
CRN 107-21-1
CMF C2 H6 O2



RN 171353-29-0 HCAPLUS
CN Decanedioic acid, polymer with 2,2-dimethyl-1,3-propanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

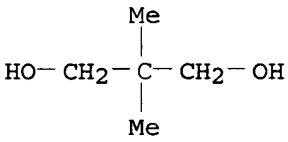
CM 1

CRN 4098-71-9
CMF C12 H18 N2 O2



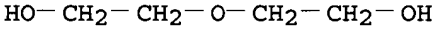
CM 2

CRN 126-30-7
CMF C5 H12 O2



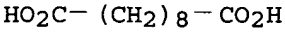
CM 3

CRN 111-46-6
CMF C4 H10 O3



CM 4

CRN 111-20-6
CMF C10 H18 O4



L58 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:452378 HCAPLUS
DN 117:52378
TI Polymer solid **electrolytes**
IN Ido, Shuichi; Noda, Tomohiko; Imachi, Hiroshi
PA Yuasa Battery Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03205416	A2	19910906	JP 1990-825	19900106
	JP 08032754	B4	19960329		

PRAI JP 1990-825 19900106

AB The **electrolytes** comprise a network of (meth)acrylate-**crosslinked** ethylene oxide-propylene oxide copolymer, an ionic salts, and optionally compds. miscible with the ionic salts. Thus, a mixture of dimethacrylate of ethylene oxide-propylene oxide copolymer (mol ratio 80:20, mol. weight 4200) 70, polyoxyethylene Me ether monomethacrylate ester (mol. weight 250) 30, LiClO4 9.5, dimethoxyethane 100, benzophenone 2, and Et3N 2 parts was cast on a glass plate and UV-irradiated to form a 100 μm-thick film with ionic conductivity 8 + 10-6 S/cm and no cracking on 180° flexing vs. 8 + 10-6 and cracking, resp., for a control prepared from ethylene oxide-propylene oxide copolymer dimethacrylate with mol. weight 450. The **electrolytes** are useful for batteries, electrochromic devices, , electrochem. sensors, etc.

IC ICM C08F299-00
ICS H01B001-06; H01M006-18; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 76

ST polyoxyalkylene acrylate **crosslinked** solid **electrolyte**

IT Battery **electrolytes**
(lithium salt in (meth)acrylate-**crosslinked** polyoxyalkylene **matrix** for)

IT Optical imaging devices
(electrochromic, **electrolytes** for, (meth)acrylate-**crosslinked** polyoxyalkyelen-lithium salt)

IT 138719-27-4D, lithium complexes 138719-28-5D, lithium complexes **141182-93-6D**, lithium complexes
RL: USES (Uses)
(**electrolyte**, for batteries and electrochromic devices)

IT 7791-03-9, Lithium perchlorate
RL: USES (Uses)
(**electrolytes** containing, (meth)acrylate-**crosslinked** polyoxyalkylene copolymers and, for batteries and electrochromic devices)

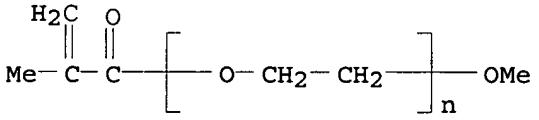
IT **141182-93-6D**, lithium complexes
RL: USES (Uses)
(**electrolyte**, for batteries and electrochromic devices)

RN 141182-93-6 HCAPLUS

CN Oxirane, methyl-, polymer with oxirane, di-2-propenoate, polymer with α-(2-methyl-1-oxo-2-propenyl)-ω-methoxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26915-72-0
CMF (C2 H4 O)n C5 H8 O2
CCI PMS



CM 2

CRN 52503-44-3
CMF (C3 H6 O . C2 H4 O)x . 2 C3 H4 O2

CM 3

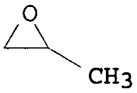
CRN 79-10-7
CMF C3 H4 O2

CM 4

CRN 9003-11-6
CMF (C3 H6 O . C2 H4 O)x
CCI PMS

CM 5

CRN 75-56-9
CMF C3 H6 O



CM 6

CRN 75-21-8
CMF C2 H4 O

L58 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:572667 HCAPLUS
DN 101:172667
TI Aluminum-filled compositions
IN Dunn, David John; Holmes, Mark; Vano, Patrick Phillip; Frauenglass, Elliott; Moran, James P., Jr.
PA Loctite Corp., USA
SO Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 114116	A1	19840725	EP 1984-300249	19840116
	EP 114116	B1	19860903		
	R: DE, FR, GB				
	US 4722960	A	19880202	US 1983-458999	19830118
	CA 1251595	A1	19890321	CA 1984-445349	19840116

	AU 8423577	A1	19840719	AU 1984-23577	19840118
	JP 59191785	A2	19841030	JP 1984-5837	19840118
	JP 05072435	B4	19931012		
	US 4855002	A	19890808	US 1989-297416	19890113
PRAI	US 1983-458999	A	19830118		
	US 1987-63256	A1	19870617		

AB Adhesive compns. having good thermal conductivity and strength properties at elevated temps. and resistance to thermal degradation, and useful for mounting heat generating elec. components to heat sinks, contain a polymerizable acrylic monomer system, a free radical initiator, and powdered Al or alumina. Thus, an adhesive composition contained Hypalon 20 (chlorosulfonated polyethylene rubber) 25.31, tetrahydrofurfuryl methacrylate 54.20, 2-hydroxyethyl methacrylate 6.05, butylene glycol dimethacrylate 0.83, methacrylic acid 7.64, 2,6-di-tert-butyl-4-methylphenol 0.17, cumene hydroperoxide 0.42, powdered Al 100.00, silane adhesive promoter 1.90, DER 331 (epoxy) 0.83, and Aerosil 200 (fumed silica) 2.55 parts. One drop (.apprx.0.05%) of the amine-aldehyde condensate activator Bentene was applied to the clean surfaces of sandblasted steel impact blocks and lap shear specimens, and .apprx.0.2 g of the polymerizable adhesive was applied to sep. specimens. Laps and blocks were aligned, held under finger pressure for 0.5-3.0 min, and cured 24 h at room temperature to give a bond having tensile shear strength (lap) 2500-3500 psi, impact strength (block) 10-14 ft. lb/in2, and thermal conductivity (block) 0.55-1.50 W/m°C relative to steel at 46 W/m°C.

IC C09J003-14; C08F220-00

CC 38-3 (Plastics Fabrication and Uses)

ST acrylic aluminum adhesive thermal cond; tetrahydrofurfuryl methacrylate copolymer aluminum adhesive; hydroxyethyl methacrylate copolymer aluminum adhesive; butylene glycol dimethacrylate copolymer adhesive; methacrylic acid copolymer aluminum adhesive; ethylene copolymer aluminum adhesive

IT Adhesives
(acrylic polymers, containing powdered aluminum, with good thermal conductivity)

IT Acrylic polymers, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesives, containing powdered aluminum, with good thermal conductivity)

IT 1344-28-1, uses and miscellaneous
RL: USES (Uses)
(acrylic adhesives containing, with good thermal conductivity)

IT 79-41-4D, polymers with butylene glycol dimethacrylate and chlorosulfonated polyethylene and 2-hydroxyethyl methacrylate and tetrahydrofurfuryl methacrylate 868-77-9D, polymers with butylene glycol dimethacrylate and chlorosulfonated polyethylene and methacrylic acid and tetrahydrofurfuryl methacrylate 2455-24-5D, polymers with butylene glycol dimethacrylate and chorosulfonated polyethylene and 2-hydroxyethyl methacrylate and methacrylic acid 3253-39-2D, ethoxylated, polymers with acrylates 9002-88-4D, chlorosulfonated, polymers with butylene glycol dimethacrylate and 2-hydroxyethyl methacrylate and methacrylic acid and tetrahydrofurfuryl methacrylate 27813-02-1D, polymers with acrylates 38684-65-0D, polymers with chlorosulfonated polyethylene and 2-hydroxyethyl methacrylate and methacrylic acid and tetrahydrofurfuryl methacrylate **92707-98-7 92707-99-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesives, containing powdered aluminum, with good thermal conductivity)

IT 7429-90-5, uses and miscellaneous
RL: USES (Uses)
(powdered, acrylic adhesives containing, with good thermal conductivity)

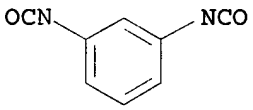
IT **92707-98-7 92707-99-8**
RL: TEM (Technical or engineered material use); USES (Uses)
(adhesives, containing powdered aluminum, with good thermal conductivity)

RN 92707-98-7 HCAPLUS

CN Hexanedioic acid, polymer with 1,4-butanediyl bis(2-methyl-2-propenoate), 1,3-diisocyanatomethylbenzene, ethene, 2-hydroxyethyl 2-methyl-2-propenoate, methyl 2-propenoate, 2,2'-oxybis[ethanol], 2-propenoic acid and (tetrahydro-2-furanyl)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

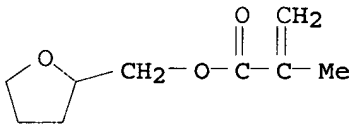
CRN 26471-62-5
CMF C9 H6 N2 O2
CCI IDS



D1—Me

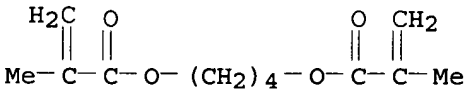
CM 2

CRN 2455-24-5
CMF C9 H14 O3



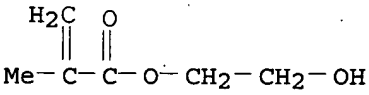
CM 3

CRN 2082-81-7
CMF C12 H18 O4



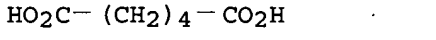
CM 4

CRN 868-77-9
CMF C6 H10 O3



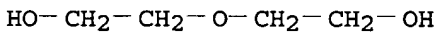
CM 5

CRN 124-04-9
CMF C6 H10 O4



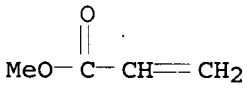
CM 6

CRN 111-46-6
CMF C4 H10 O3



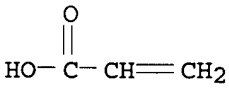
CM 7

CRN 96-33-3
CMF C4 H6 O2



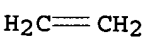
CM 8

CRN 79-10-7
CMF C3 H4 O2



CM 9

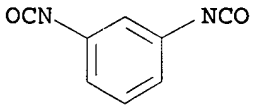
CRN 74-85-1
CMF C2 H4



RN 92707-99-8 HCAPLUS
CN Hexanedioic acid, polymer with 1,3-diisocyanatomethylbenzene, 2-hydroxyethyl 2-methyl-2-propenoate, 2,2'-oxybis[ethanol] and (tetrahydro-2-furanyl)methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

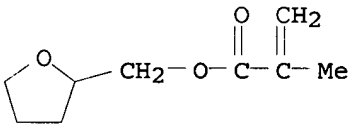
CRN 26471-62-5
CMF C9 H6 N2 O2
CCI IDS



D1—Me

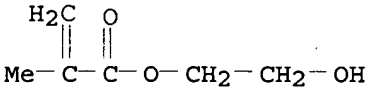
CM 2

CRN 2455-24-5
CMF C9 H14 O3



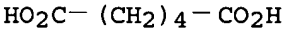
CM 3

CRN 868-77-9
CMF C6 H10 O3



CM 4

CRN 124-04-9
CMF C6 H10 O4



CM 5

CRN 111-46-6
CMF C4 H10 O3

HO—CH_2—CH_2—O—CH_2—CH_2—OH

L58 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:435511 HCAPLUS
DN 77:35511
TI Bifunctional cation-exchange membranes and their use in **electrolytic** cells
IN Hodgdon, Russell B., Jr.
PA Ionics, Incorporated
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3657104	A	19720418	US 1970-87093	19701105
PRAI US 1970-87093	A	19701105		

AB High capacity, pH-insensitive, bifunctional, dimensionally stable cation-selective membranes of particular value as hydraulic membranes in **electrolytic** cells were prepared by sulfonation or phosphorylation of a **crosslinked** unsatd. carboxylic acid-monovinylbenzene compound-divinylbenzene **matrix.** Thus, a mixture of com. divinylbenzene, acrylic acid, diethylbenzene, iso-BuOH, and Bz2O2 was used to impregnate a reinforcing cloth, polymerized, and sulfonated with 15% oleum to give a sulfonated acrylic acid-divinylbenzene-ethylbenzene copolymer (I) membrane with total capacity 4.02 mequiv./g dry resin (sulfonate group 1.92 mequiv., carboxylate group 2.10 mequiv.). The I membrane was used in a 3-compartment **electrolytic** cell to convert neutral 2N Na2SO4 into NaHSO4 and NaOH, and showed only slight buckling and no noticeable leakage.
IC B01D
INCL 204301000
CC 36-3 (Plastics Manufacture and Processing)
ST cation selective membrane; ion exchanging membrane; sulfonate carboxylate selective membrane; phosphate carboxylate selective membrane; **electrolytic** cell membrane
IT **Electrolytic** cells
(cation-exchanging membranes for, pH-insensitive)
IT Cation exchangers
(membranes, fr **electrolytic** cells, pH-insenstive)
IT 2-Propenoic acid, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate), diethenylbenzene and ethenylethylbenzene, sulfonated
2-Propenoic acid, polymer with diethenylbenzene and ethenylethylbenzene, phosphorylated
2-Propenoic acid, polymer with diethenylbenzene and ethenylethylbenzene, sulfonated
2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, ethenylethylbenzene and 2-propenoic acid, sulfonated
2-Propenoic acid, 2-methyl-, polymer with diethenylbenzene and ethenylethylbenzene, sulfonated
Benzene, diethenyl-, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate), ethenylethylbenzene and 2-propenoic acid, sulfonated
Benzene, diethenyl-, polymer with ethenylethylbenzene and 2-methyl-2-propenoic acid, sulfonated
Benzene, diethenyl-, polymer with ethenylethylbenzene and 2-propenoic acid, phosphorylated
Benzene, diethenyl-, polymer with ethenylethylbenzene and 2-propenoic

acid, sulfonated
RL: USES (Uses)
(cation-exchanging membranes, for **electrolytic** cells)

IT 9058-20-2D, Benzene, ethenylethyl-, polymer with diethenylbenzene and 2-propenoic acid, phosphorylated 9058-20-2D, Benzene, ethenylethyl-, polymer with diethenylbenzene and 2-propenoic acid, sulfonated 9058-22-4D, Benzene, ethenylethyl-, polymer with diethenylbenzene and 2-methyl-2-propenoic acid, sulfonated **9058-28-0D**, Benzene, ethenylethyl-, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate), diethenylbenzene and 2-propenoic acid, sulfonated
RL: USES (Uses)
(cation-exchanging membranes, for **electrolytic** cells)

IT **9058-28-0D**, Benzene, ethenylethyl-, polymer with 1,2-ethanediyl bis(2-methyl-2-propenoate), diethenylbenzene and 2-propenoic acid, sulfonated
RL: USES (Uses)
(cation-exchanging membranes, for **electrolytic** cells)

RN 9058-28-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with diethenylbenzene, ethenylethylbenzene and 2-propenoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 28106-30-1
CMF C10 H12
CCI IDS

D1— CH═ CH_2

D1— Et

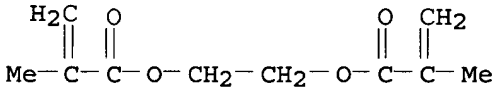
CM 2

CRN 1321-74-0
CMF C10 H10
CCI IDS

2 [D1— CH═ CH_2]

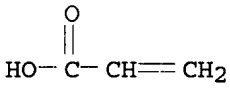
CM 3

CRN 97-90-5
CMF C10 H14 O4



CM 4

CRN 79-10-7
CMF C3 H4 O2



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